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ON

THE ANATOMY AND PATHOLOGY OF THE EYE.

Delivered at the Royal College of Surgeons of England on Feb. 12th, 14th, and 16th, 1900,

BY E. TREACHER COLLINS, F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

LECTURE I.

Delivered on Feb. 12th.

MR. PRESIDENT AND GENTLEMEN,—There is a law in biology to the effect that the various stages of development through which an individual passes typify to a great extent the history of the race. In the course of these lectures I shall have several opportunities of showing that in the study of the embryology of the human eye arrangements of parts are met with differing from what is present in the adult but simulating what is present in lower animals and, further, that when arrests of development occur conditions comparable to what are met with in lower animals, and not in man, sometimes persist.

THE EYELIDS OF ANIMALS AND THE HUMAN FŒTUS.

As an example I may first draw your attention to the development of the eyelids. In a human fœtus of six weeks no eyelids are present; the surface of the eye is directly continuous with the surface of the head. In eels and certain other fish there is no covering whatever for the eyes; the skin of the head is uninterruptedly continuous with the anterior layers of the cornea. In a human fœtus of about eight weeks the eyelids may be seen just commencing to bud out as little processes of mesoblast covered with epiblast above and below the eye. In most of the teleostean fish there is a little fold of projecting skin at the margin of the orbit, which varies in length in different species but does not usually reach the corneal margin. In a human fœtus the eyelids having budded out continue to grow over the front of the eyeball until they meet, when the epithelium along the margins becomes connected together, the conjunctiva being formed for a time into a closed sac. In the ophidia and some lacertilia the eyelids are permanently united in front of the eye; they are transparent and consist from without inwards of a continuous layer of laminated epithelium fibrous tissue and a single row of epithelial cells. The surface of the cornea is covered by but a single row of cells. The conjunctiva is a permanently closed sac through which the lacrymal secretion circulates. In the human fœtus the eyelids become separated again before birth. In many mammals of the feline tribe separation of the eyelids does not occur until some days after birth, so that their young are during birth protected from risks of infection of the conjunctival sac by secretion from the maternal passages—a protection which is unfortunately denied to man.

CRYPTOPHTHALMOS.

Amongst the congenital malformations met with in connexion with the eyelids there is a condition of which I only know two cases that have been recorded in man, but of which I have met with one example in a chick. It is termed by Zehender[1] cryptophthalmos. In his case there was a total absence of the eyelids and their appendages, the eyebrows, the lacrymal glands, and the lacrymal ducts. The whole of the front of the eyes was covered by skin, continuous with that of the face, and connected with the surface of the eyeball by a subcutaneous cellular membrane. The absence of the lids had, as Zehender says, prevented the formation of a conjunctival sac. The eyeballs themselves, of which Manz made a pathological examination, presented several abnormalities; the chief of these were the imperfect development of the lens and the filling of the anterior chamber with vitreous. The optic nerve, retina, and its pigment epithelium were quite normal.

The second case, which was precisely similar as regards the absence of eyelids and the presence of skin over the front of the eyes, has been described by Van Duyse.[2] There was also imperfect development of the parietal bone with meningo-encephalocele. The hen, the mother of the chick in which I found this condition of cryptophthalmos present, was the daughter of the cock which was the chick's father. The same cock had also been the father of a chick with two beaks, of one without any beak, and one with four legs. On removing the feathers from the blind chick I could not find a vestige of the eyelids. The skin passed continuously over the orbits and front of the eyes. These latter after removal were found to be of normal dimensions. Microscopical examination of them shows beneath the laminated epithelium on the surface a dense mass of fibrous tissue, amongst which, near the surface, are collections of round cells and blood-vessels, whilst deeper down it is less cellular and vascular, more regularly laminated like the substantia propria of the cornea. Attached to the posterior surface of this fibrous tissue and displaced backwards in the eye by it is the iris, there being no anterior chamber. The iris, the rest of the uveal tract, and the retina are very imperfectly developed. The pigment epithelium is much broken up and irregularly arranged. The lens is small but well formed.

It would appear that in these cases the eyelids and the conjunctival sacs having failed to develop and the individuals not living in a fluid medium like fish the epithelium covering the surface of the eyes became desiccated and a tissue similar in character to skin formed in front of them.

CONGENITAL ANKYLOBLEPHARON.

Several cases of congenital ankyloblepharon have been recorded in man, but they are rare. The union of the lids may not only be due to a cementing together of the epithelium at the margins but there may be a real membranous union. It has most frequently been met with in cases of congenital absence or very extreme mal-development of the eyeball. Thus out of a series of 30 recorded cases of so-called bilateral congenital anophthalmos which I collected I found that a certain amount of ankyloblepharon was mentioned as being present in nine. Middlemore[3] says: "I have seen three cases in which the tarsal margins have been coherent from birth. The defect has occurred in both eyes; the eyelashes have not been formed and in the situation of the intertarsal slit there has been a narrow sulcus, lined by a delicate vascular portion of skin, which admitted of extension but not of absolute separation. In one of the cases the eyeball appeared to be imperfectly developed." Travers[4] mentions a case of co-adhesion of the tarsi in a full-grown boy whose eye was found perfect after the division though he had been thus blind from his infancy. De Haas[5] described an infant in whom the lids were united by several thin tracts of skin attached to the lid margins between the cilia and the mouths of the Meibomian glands. When these bands were divided the eyes were found to be normal.

DERMOID GROWTHS OF THE EYE.

The cases of cryptophthalmos in which the whole surface of the eyeball is covered with skin, though rare, are interesting as offering an explanation of the much commoner malformation in which small patches of skin are found on the surface of the eye. Sometimes a portion of the upper eyelid fails to develop, a deep cleft or notch being left in it, which is spoken of as a coloboma of the eyelid. In many of such cases the surface of the eyeball opposite the gap presents some abnormality. In a case recorded by Manz,[6] in which the inner portion of the upper lid on each side was absent, bands of skin arose on the surface of each cornea where it was left exposed, and extended upwards in the region of the gaps to the skin of the forehead. In a case described by De Wecker[7] there was a small congenital notch in the border of the upper lid and on the surface of the globe was a small nodule of skin which when the eye was closed exactly filled the deficiency left in the lid. Little isolated patches of skin spoken of as dermoids are not very uncommonly met with on the surface of the globe apart from any deficiency in the lids. They occur most

[1] Report of the Fourth International Congress of Ophthalmology, p. 86.

[2] Annales d'Oculistique, 1889, tome x., p. 69.
[3] Treatise on Diseases of the Eye, vol. ii., p. 842.
[4] Synopsis of Diseases of the Eye, p. 104.
[5] Med. Weekblad., 1894, p. 489.
[6] Archiv für Ophthalmologie, 1868, Band xiv., Abtheilung 2, p. 145.
[7] Archives of Ophthalmology and Otology, vol. i., p. 91.

frequently at the sclero-corneal margin opposite the palpebral aperture, more often on the outer than the inner side and a little below the horizontal meridian of the eyeball—that is, in the region of the eye which would remain longest uncovered by the eyelids in their extension over it during fœtal life. Many years ago Ryba[8] suggested—and I think his observations are well borne out by the above cases—that the reason skin formed on the surface of the eye opposite the gap left by a coloboma of the lid was that the lining membrane there not being covered over failed to become mucous membrane, and he further suggested that the dermoid nodules opposite the palpebral fissure probably resulted from an incomplete apposition and union of the margins of the lids, portions of the surface of the eye being left uncovered.

XEROSIS OF THE CORNEA AND CONJUNCTIVA.

The epithelium of the surface of the cornea and conjunctiva differs from that of the skin in the absence of a horny layer; the cells nearest the surface in these parts, unlike those in the superficial layers of the skin, are not shrunken and all possess nuclei. It is the presence of moisture and the constant friction of the lids over the front of the eye in the act of winking which accounts for this difference. That this is so is shown by what happens when their agents are absent. If a staphylomatous cornea protrudes between the lids and is so prominent that a portion of it is not covered by them during sleep, then the surface epithelium on the exposed part is not removed and layers of dry horny cells devoid of nuclei accumulate on the surface. In cases of severe granular ophthalmia or other destructive affections—such as pemphigus, when what is termed symblepharon posterior is formed—much of the retro-tarsal fold of the conjunctiva and its glands are destroyed by cicatricial contraction, and the lacrymal secretion is to a great extent cut off. Then the epithelial cells on the surface of the cornea and conjunctiva, instead of being removed, accumulate and form a dry horny layer on the surface. I have had the opportunity of examining microscopically the whole conjunctival sac and cornea of one such case and the cornea in two others.

Besides the marked thickening of the epithelium and the dryness of its surface layers, I have found in each case numerous down-growing finger-like processes of epithelium, making the base line of the epithelium over the cornea, which is normally straight, very irregular, and so causing its appearance on section still further to resemble that of skin. The down-growths have a peculiar and definite arrangement, those in the centre of the cornea passing vertically downwards, those towards the periphery gradually sloping more and more outwards and downwards. These finger-like processes are probably first started by shrinking of the surface due to contraction of the cicatricial tissue in the subjacent structures. To quote another example of the readiness with which the conjunctiva will, under favourable circumstances, take on the characters of skin, I may refer to the operation for ectropion devised by Mr. Tweedy, in which after cutting out a flap of the whole thickness of the lid he utilises a portion of the conjunctival surface to fill up a gap left below the lid after it has been stitched into its required position. The transplanted and exposed piece of conjunctiva is found after a short time to take on all the appearances of skin.

THE INFLUENCE OF FRICTION OF THE LIDS ON THE SURFACE OF THE CORNEA.

The influence which the friction of the lids has in the preservation of the character of the surface epithelium of the cornea is well illustrated by some observations described by George Bull of Paris.[9] He examined the changes produced on the surface of the cornea by a method of entoptic observation in which he allowed the light from a small candle flame five metres distant to be thrown in circles of diffusion upon the retina by a convex lens of about five centimetres' focus, held within two centimetres from the eye. The field seen by this method is circular, more or less uniformly granular, and limited by the dark shadow of the iris. By the passage of the eyelids over the front of the eye Bull has pointed out that two sorts of bright bands bounded by darkened areas may be produced in the field. The first, which he calls temporary, are due to changes in the curvature of the lubricating fluid which the eyelids push before them over the front of the cornea. These temporary bright bands are seen to advance and recede with the movements of the lids, and a single sweep of the lids as in natural winking instantly effaces them. The second sort of bands are termed by Bull persistent; they are produced when stronger and more enduring pressure of the tarsal edge of the lid is made against the cornea and are due to a disturbance of the epithelial surface. These persistent bands are less bright than the temporary ones, indicating that when the disturbance of curvature is in the epithelium it is less in degree than the disturbance of curvature created by a wave of viscous fluid. The act of winking instead of making the persistent bands disappear makes them brighter as they tend to fade. Bull concludes from his observations, all of which I have repeated and am able to confirm, that the tarsal edge of the lid evidently acts as a kind of scraper over the front of the eye. By so doing it must constantly remove any epithelial débris from the surface of the cornea as well as provide fresh supplies of lubricating fluid.

ENTOPTIC EXAMINATION OF THE CORNEA UNDER THE INFLUENCE OF COCAINE AND ERYTHROPHLÆINE.

I have further examined by this entoptic method the condition of the cornea after the application of certain drugs to the eye such as cocaine and erythrophlæine. As is well known, after the application of cocaine to the eye, unless the lids be kept closed the surface of the cornea becomes dry. That this is largely, if not entirely, due to the retraction of the eyelid from stimulation of the unstriated fibres of Müller is well shown by this method of examination. When the eye is well under the influence of the drug the bright temporary bands hardly ever make their appearance in the field, and when they do only at the extreme upper margin. After a while the whole of the field, instead of presenting a comparative uniform granular appearance, becomes irregularly mottled and marked out with a number of very irregular, bright, branching lines like the cracks seen in the glaze of china. Vision with an eye fully under the influence of cocaine, if the eyelids have not been kept closed, is, even for distant objects, somewhat misty, and a dim halo of colours can be seen round bright lights when viewed against a dark background.

The microscopical appearances of the cornea when under the influence of cocaine have been described by Wurdinger[10] who experimented on rabbits, dogs, and guinea-pigs. He found that there was an unevenness of the surface which was due to an irregular diminution of the thickness of the tissues. The anterior layers of the epithelium gradually became thinned and flattened, later the deeper layers began to shrink, and ultimately the external cells were in places cast off at the spots where the epithelium was most damaged. Wurdinger attributed the xerotic condition of the cornea partly to diminished lymph supply from contraction of the blood-vessels, as well as to the dryness produced by exposure. That diminished lymph supply from contraction of blood-vessels alone will not produce the change in the cornea is shown by no alteration occurring after the application of the extract of suprarenal capsule to the eye, which gives rise to a more marked constriction of the conjunctival and scleral blood-vessels than cocaine. In ten normal eyes in which W. H. Bates[11] instilled this drug at short intervals for three hours no desquamation followed. The field examined by the entoptic method after its use shows no alteration whatever from its normal granular appearance.

Erythrophlæine is an alkaloid obtained from an African arrow-poison called "haya." In 1888, when experimenting with a 0·125 per cent. solution of the hydrochlorate to test its reputed local anæsthetic properties, I found that the instillation of a drop into the eye was followed by considerable smarting and irritation, lasting about from 10 to 30 minutes. Slight anæsthesia of the cornea was produced, but hardly any of the conjunctiva, never sufficient to obliterate the smarting caused by a 1 in 40 solution of carbolic acid. After about two hours the sight of the eye in which it had been put became very much blurred, everything appearing as if in a fog, and all lights having a pronounced circle of coloured rings around them, the red rays being the outermost. The position of the red rays was not altered by changes in the refraction of the eye. The nearer the light was to the eye the smaller were the halos, and *vice versâ*. The halos

[8] Prager Vierteljahrschrift, 1853, Band iii.

[9] Transactions of the Eighth International Congress of Ophthalmology, 1894, p. 107.

[10] Klinisches Monatsblatt für Augenheilkunde, 1886, Band xxiv. S. 140.

[11] Archives of Ophthalmology, vol. xxviii., No. 3, 1899.

remained stationary whether the light was fixed by the eye or not. The blurring of vision was not due to any alteration in the accommodation of the eye. The cornea on careful examination was found to be slightly steamy. There was no increase in the tension of the globe. The first specimen of erythrophlæine that I used produced slight dilatation of the pupil. A second specimen produced slight contraction. After the use of both of these solutions the coloured halos were seen.

Examination of the cornea, when under the influence of the erythrophlæine by the entoptic method above described, shows it to be mapped out with a number of very dark branching lines bounded on each side by light ones, the field retaining its uniform stippled character in the spaces between the lines. These lines commence to appear about three-quarters of an hour after the application of a drop but are at first very faint, and do not reach their maximum intensity for two hours—i.e., until the coloured rings are also plainly visible. They last as long as these and are seen for about 12 hours. Slight pressure on the globe so as to increase its tension causes the lines to change so that the part that was dark becomes bright and that which was bright becomes dark. If the pressure is increased they disappear altogether, the field becoming uniformly granular. I find it difficult to conjecture the nature of these lines. The cornea when they are present does not become stained with fluorescine. I made a drawing of them as they appeared in one of my eyes and a few weeks later after a fresh instillation I compared the drawing with their arrangement as then seen. So similar were the number, grouping, and branching of the lines on the two occasions that I cannot help thinking that they represent some definite anatomical structure.

IRIDESCENT VISION.

The halos produced by erythrophlæine cannot be in any way connected with dilatation of the pupil, for they were seen equally well after the use of a specimen which produced slight contraction of the pupil. They cannot in any way be connected with the lens, for they were seen by a patient after a cataract had been extracted to whose eye I applied a drop. They cannot be due to pressure on the retina for there is no increase of tension. The irresistible conclusion is that they are due to the haze of the cornea.

CHANGES IN THE SURFACE OF THE CORNEA IN GLAUCOMA.

In glaucoma, too, when halos are seen, a haze or steaminess of the cornea is present. The changes which give rise to this haze were first pointed out by Fuchs[12] to be due to the collection of minute drops of fluid, which sometimes contain albumin and coagulate in the anterior part of the cornea, between the surface epithelium and the anterior limiting membrane, in the channels in the anterior limiting membrane through which the nerve fibres pass, and in the spaces between the anterior layers of the fibrous tissue forming the substantia propria. In eyes in which increased tension has existed for some time, what appear to the naked eye to be little vesicles may be met with on the surface of the cornea. Microscopically I have found these apparent vesicles to be composed of a loose network of fibres and branching cells with fluid in its mesh situated between the anterior limiting membrane and the epithelium. In some eyes, as these apparent vesicles form, great pain is experienced which is due probably to the stretching of the nerve filaments which pass to the epithelium. This pain lasts until the apparent vesicle collapses, when it is at once relieved. After a condition such as this has existed in an eye for some time a formation of dense fibrous tissue makes its appearance between the epithelium and the anterior limiting membrane, and the anterior limiting membrane in certain positions appears broken in its course by the extension through it from behind forwards of considerable collections of fibrous tissue.

The interpretation of these several changes seems to be that at first, as the result of the increased tension, there is a disturbance in the lymph flow in the cornea, a disturbance which results in œdema and which manifests itself naturally at the part where the pressure is least—namely, towards the anterior surface. The epithelium in places becomes separated from the anterior limiting membrane. The communications between the intercellular clefts within the anterior epithelium and the corneal spaces through the anterior limiting membrane become distended, and some of the spaces between the anterior layers of fibrous tissue are enlarged. At first the distended spaces are filled with the ordinary circulating lymph of the cornea, but if the œdema persists for some time cells find their way into it which proliferate, and a network develops. This loose network and cells later become transformed into dense fibrous tissue resembling that of the substantia propria, but much of it lying anterior to the limiting membrane and in the clefts formed by the immensely distended lymph spaces in it.

TRANSVERSE FILMS OF THE CORNEA.

An avascular development of fibrous tissue between the anterior limiting membrane and the epithelium, together with breaks in its continuity, through which pass bands of fibrous tissue, is met with, not only in eyes which have glaucoma, but also as a localised condition in what is spoken of as transverse films of the cornea. These transverse films are either primary—i.e., occurring in eyes apparently perfectly healthy—or secondary, occurring in eyes otherwise diseased, most frequently in eyes which have for some time been blind. It is probable, however, that both primary and secondary films have the same pathological characters. C. H. Usher, while working with me in the laboratory of the Moorfields Hospital, made a careful examination of the cornea of 13 eyes with secondary transverse films and published a description of them in the hospital's reports.[13] The results of his examinations may be summarised as follows: 1. The antero-posterior diameter of the cornea is increased in the situation of the film and this is usually the thickest part of the cornea. 2. A formation of laminated fibrous tissue is present at the anterior part of the cornea between the epithelium and the normal situation of Bowman's membrane, which in most cases contains a granular material. No blood-vessels are found in this new fibrous tissue. 3. Granular hyaline or entirely granular bands, frequently with a space in front of them, are found at the posterior part of the new tissue, in some cases forming a sharp line between it and the substantia propria. These bands vary much in length, shape, and arrangement. Their breadth varies only to a limited extent, being about equal to that of a normal Bowman's membrane. The number of granules in the bands varies considerably. 4. At parts where the hyaline granular bands exist Bowman's membrane is never found in contact with the epithelium. They may be found directly continuous with Bowman's membrane where it lies in contact with the epithelium. So that there can be no doubt that they are portions of Bowman's membrane which have become granular and divided up. 5. Degenerative changes are found in the epithelium in the situation of the film. 6. A portion of the film treated *en masse* (by cutting a piece off from the anterior part of the cornea), either with strong hydrochloric or acetic acid, showed by the evolution of bubbles that there was calcareous material present in every case in which it was tried.

As I have said in cases of glaucoma of long standing a formation of fibrous tissue similar in appearance to that met with in these films may be found between the epithelium and the anterior limiting membrane which appears to be the result of lymph stasis. The avascular formation of fibrous tissue in these films is probably brought about in the same way, but whilst the changes following glaucoma are comparatively acute the formation of the films is exceedingly slow, often extending over a period of several years. Hence the presence in these latter of calcareous granular-looking incrustations. In glaucoma the formation of vesicles or the later superficial development of fibrous tissue may be met with in all parts of the cornea. In the transverse films the change is confined to the portion of the cornea corresponding to the palpebral aperture and is usually a band situated a little below the middle line. The reason that this area is affected has been usually attributed to its being the part most exposed to irritation from external agents. There is, I would point out, another important cause which appears to have been overlooked and which accounts, moreover, for the way in which these films begin and extend. I refer to the effect of the pressure of the lids on the cornea. A transverse film is never seen to extend quite up to the margin of the cornea, a narrow band of clear tissue being always left between it and the extreme margin. The opacity usually commences to form in two places, on the outer and inner sides of the cornea, and then

[12] Archiv für Ophthalmologie, 1881, Band xxvii., 2te Abtheilung 3, S. 66.

[13] Vol. xiii., 1893, p. 508.

each patch gradually extends inwards until they meet and one complete horizontal band results. It always, however, remains thickest and densest at its two starting points. In a complete film the lower border is nearly straight whilst the upper is curved, the convexity being downwards.

We have seen from the observations of Bull that the pressure of the margin of the lid on the cornea may be such as to cause a lasting depression in the surface epithelium, and it is not difficult to understand that this sort of squeegee action of the lids in their passage over the surface of the cornea would tend to prevent the accumulation of œdematous fluid in spaces beneath the epithelium, unless the obstruction to flow of lymph in the cornea was fairly acute. The part of the cornea least affected by this lid pressure is opposite the palpebral aperture, and as the central portion of it projects most from the surface of the globe it is pressed on more than the sides, so that the peripheral portions of the cornea opposite the palpebral aperture are the least affected by lid pressure and are the parts in which the transverse film commence and are most intense. That a film does not extend quite up to the corneal margin is probably accounted for by that region being directly under the influence of the terminal vascular loops which tend to absorb any œdematous exudation in their immediate vicinity.

VESICLES IN THE CORNEAL EPITHELIUM AND FILAMENTARY PROCESSES.

Besides the vesicle-like formations at the anterior surface of the cornea, which are due to the separation of the epithelium from the anterior limiting membrane, others are met with which make their appearance in the substance of the epithelium itself. I published a drawing and description of these in the Moorfields Hospital Reports[14] for 1890. They are most frequently met with in glaucomatous eyes, but may occur where no increase of tension is present. J. P. Nuel,[15] who has more recently investigated this form of epithelial change, finds it to be due to a hyaline or mucoid degeneration of the cells. He has been able to trace all the stages in the gradual alteration of the cells, showing how they first become enlarged and then distended by the formation of a hyaline or mucoid substance in them, how several contiguous cells are often affected, their cell-walls ultimately becoming so attenuated that they break through into one another, little vesicles resulting. As these vesicles form the cells immediately surrounding them, from the pressure to which they are exposed, become flattened out. The ones in front and behind the vesicle become flattened so that their long axis is horizontal, whilst those at the sides have their long axis vertical. When two vesicles form close together a ridge of cells arranged vertically separates them. When, as ultimately happens, the vesicles open out this ridge of vertically placed cells remains as a filamentary process on the surface of the cornea. The way in which these vesicles tend to produce elevations of vertically placed cells helps us, I think, to understand how the filamentary formations met with in what is termed by Leber "filamentary keratitis" may be started. The filamentary formations in this disease have been shown by Nuel and Hess to be composed of a central core of twisted and much elongated epithelial cells, the long axis of which is for the most part vertical to the surface, and they have further shown that cells removed from the surface of the cornea in the neighbourhood of the filiform processes are frequently undergoing a hyaline change.

THE DEVELOPMENT OF THE CORNEA AND ITS POSTERIOR LIMITING MEMBRANE.

The development of the cornea in the chick has been described as follows:[16] "The substantia propria corneæ first appears in the chick as a thin homogeneous layer lying immediately within this epithelium (the surface epithelium). Into this homogeneous layer mesoblastic cells pass from the margin, greatly thickening it and producing eventually the regular layers of fibrous tissue which are characteristic of the cornea. No cells pass into the most anterior or into the most posterior stratum which remains homogeneous (anterior and posterior homogeneous lamellæ of Bowman). The epithelium of the posterior homogeneous lamella or membrane of Descemet is derived from mesoblast cells, which grow in like the corneal corpuscles from the margin and spread themselves over the posterior surface of the cornea, thus separating this from the iris and anterior surface of the lens."

With regard to the origin of the homogeneous layer which first separates the lens vesicle from the surface epithelium in the chick and which remains ultimately as the anterior and posterior elastic laminæ two different views have been put forward. Kessler regards it as a secretion of the epidermis and Kölliker as of mesoblastic origin. In mammals this homogeneous layer has not been met with. Hertwig says[17]: "As soon as the lens vesicle in mammals is fully constricted off it is already enveloped by a thin sheet of mesenchyma with few cells, which separates it from the epidermis. The thin layer is rapidly thickened by the immigration of cells from the vicinity. Then it is separated into two layers, the pupillary membrane and the fundament of the cornea." He makes no mention as to the mode of origin of the anterior and posterior elastic laminæ in mammals.

In fœtal mice which I have examined I find at one stage the surface epithelium separated from the lens by a collection of round cells, but no vestige amongst them whatever of a hyaline membrane. In sections of a human fœtal eye of between the first and second months I find the cornea to consist from before backwards of the following layers. Epithelial cells in places appearing two rows thick; immediately in contact with them, and not separated by any homogeneous membrane, layers of cells with elongated nuclei and fibres. The nuclei of these cells are very much closer together than those of the corneal corpuscles in the adult cornea, the amount of fibrous tissue between them being very much less. Behind this laminated fibrous and cellular tissue is seen an extremely thin hyaline layer, posterior to which are closely packed cells with round nuclei, showing a tendency to arrangement into two layers, the anterior evidently being the lining endothelium of Descemet's membrane and the posterior the commencement of the antero-fibro-vascular sheath of the lens. I am unable to find any blood-vessels amongst the round cells, though there are many already formed at the posterior part of the lens. In a specimen I have of a human fœtal eye of the fourth month blood-vessels are distinctly seen in the antero-fibro-vascular sheath. The posterior elastic lamina is still only seen as an exceedingly delicate line, and nothing of a homogeneous layer is yet visible between the anterior epithelium and the substantia propria of the cornea. In a human fœtal eye, said to be of the sixth month, Bowman's membrane, the anterior elastic lamina, is very distinctly seen, and the posterior elastic lamina is considerably wider than it was at the fourth month.

It is evident, then, from this that in mammals there is a stage in the development of the cornea where no elastic membrane is present. In man, when a very delicate rudiment of the posterior elastic lamina is just discernible, it is already lined by endothelial cells, and from this time onward it gradually increases in thickness. That there are physical and chemical differences between Bowman's and Descemet's membranes has been repeatedly pointed out, the former being similar in character to the substantia propria whilst the latter resembles closely elastic tissues. This difference I have lately further been able to emphasise by treating sections with acid solutions of orcein. After they have been allowed to soak in it for some hours Descemet's membrane can be made to stand out a reddish-brown colour, while the substantia propria and Bowman's membrane stains a dull pink. How then is Descemet's membrane formed? Is it the product of the endothelial cells lining it? In determining this point a study of the pathological changes observed in connexion with it are of considerable assistance. On the inner surface of Descemet's membrane in diseased eyes little hyaline nodules are sometimes seen indistinguishable in structure from the membrane itself. It seems unlikely that an inert basement membrane would give rise to such outgrowth and much more probable that the active endothelial cells lining it should undergo some change which results in their production. The nodules, moreover, are never met with except on the inner surface where the cells are situated. If they were simply thickenings of the membrane itself it seems reasonable to expect that they should sometimes be met with on both surfaces.

PATHOLOGICAL NEW FORMATIONS OF DESCEMET'S MEMBRANE.

Sometimes after perforating wounds of the cornea a new formation of a hyaline membrane may be met with thus.

[14] Vol. xiii.
[15] Archives d'Ophtalmologie, October, 1893.
[16] Quain's Anatomy, tenth edition, vol. i., part 1, p. 87.
[17] Text-book of Embryology, translation of the third German edition, p. 477.

B. Gepner, jun., described (in 1890[18]) the case of a man, aged 21 years, who had an iridectomy performed several years previously for iritis. The eye was removed on account of inflammation following a blow. A gap was found in Descemet's membrane in the region of the cicatrix, which was bridged across by a layer of hyaline membrane of the same structure as Descemet's membrane and lined by endothelial cells. Wagenmann (in 1891[19]) recorded the case of a patient, aged 57 years, who two and a half years previously had had a cataract extracted from his eye by the modified linear operation of von Graefe, and who while in the hospital for operation on his other eye died from pneumonia. The eye first operated on was removed shortly after death, and on microscopical examination of the seat of the wound the two cut extremities of Descemet's membrane could be seen, separated by a slightly protuberant film of tissue, posterior to which was a layer of newly formed hyaline substance lined by endothelial cells. Wagenmann has no doubt that the hyaline layer was derived from the endothelium. Alt mentions a case[20] in which there was a considerable new formation of fibrous tissue on the inner surface of Descemet's membrane, which was covered on the surface towards the anterior chamber by a newly formed secondary membrane of Descemet lined by endothelium, and he says: "I think that this case shows that Descemet's endothelium cannot only form lamellated connective tissue, similar to that of the corneal tissue, but that it can form, and, perhaps, originally forms, the vitreous membrane, which we call that of Descemet."

I have myself recorded two cases with a similar new formation and I have met with a third. My first case was that of a man, aged 46 years, who 26 years previously to excision had received an injury to his eye from a piece of steel. There was a faint scar at the lower part of the cornea and in the eye a small fragment of metal two millimetres square. Microscopical examination of sections of the cornea in the line of the scar showed on the posterior surface the two divided ends of Descemet's membrane turned forwards and separated from one another by fibrous tissue, whilst a thin hyaline layer bridged over the gap posteriorly. This hyaline layer could be traced for a short distance in contact with, but distinct from, Descemet's membrane with which a little further on still it became blended. Endothelium continuous with that on Descemet's membrane lined its posterior surface.

The second case was that of a man, aged 44 years, who three years previously to excision had had an iridectomy performed for glaucoma. The divided ends of Descemet's membrane in the region of the scar were found to be widely separated; the more peripheral end was curved a little backwards. Between the two ends there projected backwards some new-formed fibrous tissue, which at one part was dense and laminated, resembling closely normal corneal tissue. Some of this new-formed fibrous tissue extended a short distance inwards towards the centre of the cornea behind Descemet's membrane. On the posterior surface of this dense new-formed laminated fibrous tissue was seen a thin hyaline membrane of the same structure as the posterior elastic lamina to which on the inner side it became united at an acute angle. It was lined by endothelium continuous with that on the posterior surface of the cornea elsewhere.

The third case was that of a girl, aged 16 years, the subject of congenital syphilis, who had had interstitial keratitis and in whom the eye had been operated on two and a half years previously to its enucleation. Two scars were found in the cornea; part of the iris and the lens had been removed. Extending backwards from each scar in the cornea to the lens capsule was a mass of fibrous tissue. At either side of each of these bundles of fibrous tissue the hyaline layer of Descemet's membrane seemed to divide into two. The anterior parts, of the same thickness as the membrane elsewhere, were continued on for a short distance lying embedded in the fibrous tissue and then terminated abruptly; they had no endothelial cells lining them. The posterior divisions which were thinner than the anterior, but lined by endothelial cells continuous with the endothelial cells of Descemet's membrane elsewhere, and ran for some distance along the margins of the bands of fibrous tissue connecting the lens capsule with the back of the cornea.

If, then, as seems to be shown by the above cases, under some abnormal stimulus the endothelial cells lining the posterior limiting membrane are capable of producing nodules or a layer of a substance indistinguishable in structure from that membrane, it seems fair to assume that it itself is originally developed from them.

[18] Archiv für Ophthalmologie, Band xxxvi., Abtheilung 4, S. 255.
[19] Ibid., Band xxxvii., Abtheilung 3, S. 21.
[20] American Journal of Ophthalmology, vol. xiii.

FORMATION OF HYALINE MEMBRANES ON THE ANTERIOR SURFACE OF THE IRIS.

The anterior surface of the iris, like the posterior surface of the cornea, is covered by a single layer of flattened endothelial cells, but beneath the endothelial cells of the iris there is not, as beneath the endothelial cells of the cornea, a hyaline membrane. It is interesting, however, to note that under certain abnormal conditions a hyaline membrane like that of Descemet's may be developed immediately underneath the cells on the surface of the iris. I have met with it as what was probably a congenital abnormality and also as the result of a pathological change late in life. The eye in which this change was probably congenital was a buphthalmic one, which was removed from a girl, aged seven years. It had been noted as larger than its fellow since birth and there had never been any inflammation in it. There was an adhesion of the iris to the back of the cornea a little above its centre; where it was attached Descemet's membrane was thickened. The endothelium lining the latter turned round the edge of the synechia and was continuous with that on the surface of the iris, which was unusually well defined. On one side of the synechia starting from the thickened part of Descemet's membrane and extending for some distance beneath the endothelium on the anterior surface of the iris was a thin hyaline layer.

The eye, in which the formation of a hyaline membrane in the iris probably occurred late in life, was removed from a woman, aged 67 years, who had had absolute glaucoma of some years' duration. The angle of the anterior chamber was closed by adhesion of the root of the iris to the periphery of the cornea. The chamber itself was filled by a loose network of fibrous tissue in which blood-vessels had developed, and in the meshes of which were numerous cells of an endothelial type, probably derived from those on the back of the cornea, and cholesterine crystals. The whole of the surface of the iris was covered by a hyaline membrane, thicker in some parts than in others.

LECTURE II.

Delivered on Feb. 14th.

RELATIVE SIZE OF THE CORNEA TO THE EYEBALL IN MAN COMPARED WITH OTHER MAMMALS.

MR. PRESIDENT AND GENTLEMEN,—The cornea in man's eye is smaller relatively to the size of the globe than in any other mammal. In all mammals below man the diameter of the cornea measures more than half the antero-posterior diameter of the globe. In the chimpanzee it is about half. In man alone is it considerably less than half. The following table (Table I.) shows the dimensions of the eyeballs and corneæ of a series of different mammals which I have had the opportunity of measuring:—

TABLE I.

—	Diameters of the eyeball.		Diameters of the cornea.	
	Antero-posterior.	Lateral.	Lateral.	Vertical.
Man	24·8 mm.	24·4 mm.	11·6 mm.	11·0 mm.
Chimpanzee	19·0 ,,	18·0 ,,	10·5 ,,	—
Rhesus monkey (India)	19·5 ,,	19·0 ,,	12·0 ,,	11·0 mm.
Capuchin monkey (South America) ...	18·5 ,,	19·0 ,,	11·0 ,,	10·5 ,,
Rabbit	16·0 ,,	20·0 ,,	15·0 ,,	—
Mouse	4·0 ,,	5·0 ,,	3·0 ,,	—
Civet cat	11·0 ,,	17·0 ,,	13·0 ,,	—
Cat	22·0 ,,	21·0 ,,	18·0 ,,	—
Horse	45·0 ,,	51·0 ,,	26·0 ,,	—
Sheep	27·0 ,,	28·0 ,,	19·0 ,,	15·5 mm
Ox	36·0 ,,	38·0 ,,	27·0 ,,	22·0 ,,
Pig	23·5 ,,	24·0 ,,	17·0 ,,	14·0 ,,
Wallaby	18·0 ,,	19·0 ,,	14·0 ,,	—

It is this alteration in the relative size of the cornea to the eyeball in man which gives to him the characteristic feature of having a portion of the sclerotic and conjunctiva exposed to view in the palpebral aperture, and which renders him liable to two affections of the conjunctiva not met with in animals—namely, pinguecula and pterygium.

RELATIVE SIZE OF THE CORNEA TO THE EYEBALL IN FŒTAL EYES OF DIFFERENT AGES COMPARED WITH THE ADULT EYE.

In the human eye during fœtal life the relation of the size of the cornea to the globe resembles what is met with in other mammals in the adult state. That is to say, the lateral diameter of the cornea is always more than half the antero-posterior diameter of the eyeball. This is shown in Table II., which gives the measurements of the eyeballs and corneæ from a series of human fœtuses of different ages.

TABLE II.

Age.	No. of eyes examined.	Measurements of the eyeball in millimetres.			Measurements of the cornea in millimetres.	
		Antero-posterior	Vertical.	Lateral.	Vertical.	Lateral.
Fourth month	2	8·5	8·0	8·0	4·5	5·0
Sixth month ...	2	10·3	9·75	10·0	5·5	6·0
Seventh to eighth month	8	14·3	12·6	13·2	7·5	8·0
Ninth month ..	1	17·0	15·5	16·0	10·0	10·5
Adult		24·8	24·0	24·4	11·0	11·6

Diminution of the size of the cornea in relation to the size of the eyeball lessens the space occupied by the filtration area relatively to the amount of contents in the globe.

THE RELATION OF PARTS ABOUT THE ANGLE OF THE ANTERIOR CHAMBER IN MAN AND OTHER MAMMALS.

I shall now proceed to show that this lessening of the space occupied by the filtration area in man's eye, as compared with other mammals, is accompanied by considerable alteration in arrangement of parts about the angle of the anterior chamber. In man the ligamentum pectinatum begins by the splitting up of the hyaline layer of Descemet's membrane into a number of trabeculæ, which, lined by endothelial cells, are prolonged outwards. Some of the innermost of these turn round the angle of the chamber and pass to the root of the iris; others give origin to the ciliary muscle and the outermost are inserted into the sclerotic. The structure in antero-posterior sections has a laminated appearance and between the trabeculæ are narrow slit-like spaces. The distance between the point where Descemet's membrane begins to split up into the ligamentum pectinatum and the extreme angle of the anterior chamber measures on an average 0·8 of a millimetre. The canal of Schlemm overlies the ligamentum pectinatum and the extreme outer part of the angle of the chamber, so that if a line vertical to the surface of the eye were drawn backwards through the centre of the canal of Schlemm it would pass into the angle of the anterior chamber. If the same line were continued backwards it would almost pass through the large circular artery at the base of the iris and only a small portion of the ciliary processes would lie to its inner side.

The ligamentum pectinatum reaches its greatest development in the ungulata. Amongst them I have examined sections from the eyes of horses, sheep, oxen, and pigs. In these it is composed of an external laminated part with slit-like spaces having much the same arrangement as the ligament in man, and an inner part consisting of an irregular network of trabeculæ with large cavernous spaces between them, whilst in some sections on the side bounding the anterior chamber a prolongation of fibrous tissue, like that on the anterior surface of the iris, passes forwards to be attached to the back of the cornea. It is these fibrous tissue prolongations occurring at regular intervals which give the ligament its notched appearance. The angle of the anterior chamber in these animals does not extend outwards beyond the point where Descemet's membrane begins to split up, so that a line drawn backwards vertically to the surface of the eye through the centre of Schlemm's canal will not pass through the angle of the anterior chamber, but will be some distance outside of it, and the large circular artery of the iris together with a large portion of the ciliary processes will be to its inner side. In the kangaroo the arrangement is very similar to that in the ungulata, the cavernous part of the ligamentum pectinatum, however, not being quite so extensive.

In the carnivora, amongst which I have examined the eyes of dogs, cats, and foxes, the trabeculæ of the ligamentum pectinatum are very delicate, the laminated portion small, but the cavernous portion very extensive, extending backwards a considerable distance beyond the termination of Descemet's membrane and having very large spaces in it. The angle of the chamber, as in the ungulata, ends where Descemet's membrane begins to split up, and the line drawn back through the canal of Schlemm would be some distance outside of it and have the circular artery of the iris and a large part of the ciliary processes to its inner side. The same applies to the eyes of rodents, in whom the laminated portion of the ligament is still less marked than in the carnivora, while the space between the trabeculæ of the cavernous portion are very large.

Among the quadrumana I have examined sections of the eyes of a South American monkey (capuchin) and Indian monkeys (rhesus) and a chimpanzee. In them the arrangement of parts about the angle of the anterior chamber has a much closer resemblance to that met with in human eyes than that in other mammals. There are, however, slight differences to be observed. In them, and especially in the chimpanzee, the innermost trabeculæ of the ligamentum pectinatum are more widely separated, bend down sooner to be attached to the root of the iris, and have larger spaces between them than in the human eye. They form a modified cavernous zone.

No prolongation forwards of fibrous tissue from the anterior surface of the iris to the back of the cornea on the anterior chamber side of the ligamentum pectinatum is met with in them as in other mammals. The angle of the anterior chamber is not so rounded as in man. A line drawn vertically backwards through the canal of Schlemm would, as in man, pass into the extreme angle of the anterior chamber and leave the greater part of the ciliary processes external to it.

DEVELOPMENT OF THE LIGAMENTUM PECTINATUM IN THE HUMAN EYE.

The fibres of the ligamentum pectinatum when treated with reagents and stains behave in precisely the same way as the hyaline layer of Descemet's membrane. In sections stained with acid orcein I have found them picked out a reddish-brown colour like Descemet's membrane. As I have shown, there is considerable evidence to prove that Descemet's membrane is the product of the endothelial cells lining it. It would seem probable, therefore, that the fibres of the ligamentum pectinatum are the products of the endothelial cells lining the spaces of Fontana. In sections of a human fœtal eye in which the iris is just beginning to bud out from the ciliary body and to insinuate itself between the cornea and lens I find that the site of the ligamentum pectinatum is occupied by a collection of round cells radiating from the single row lining the back of the cornea and blending, without any line of demarcation, with others which form the basis of the ciliary muscle. Schlemm's canal can be distinguished as a ring of cells. In a human fœtal eye of about the fourth month the ligamentum pectinatum and ciliary muscle are distinctly differentiated; the former consists of very delicate fibres with cells lining them and spaces between. Though the parts are small there is a portion of the ligamentum pectinatum comparable to what I have described as the cavernous zone in lower mammals. The angle does not extend outwards beyond the termination of Descemet's membrane, and a vertical line drawn backwards through the canal of Schlemm is external to the angle of the anterior chamber, while the large circular artery of the iris and the ciliary processes are internal to it. In a fœtal eye of the seventh month the trabeculæ of the cavernous zone are more spaced out, but a line drawn vertically backwards through Schlemm's canal still passes externally to the angle of the anterior chamber. In the sections of a human fœtal eye at birth I have found delicate trabeculæ of fibres stretching across what would have ultimately become the angle of the anterior chamber, much in the same way as I have found fibres of the ligamentum pectinatum bend down to the root of the iris in the eye of the chimpanzee.

It will be seen, then, that the diminution in the relative size

of the cornea to the globe in man's eye, as compared with other mammals, is accompanied by a simplification of the structure of the ligamentum pectinatum and a prolongation of the anterior chamber outwards. Further, in the process of development the human eye passes through stages in which the relative size of the cornea to the globe and the relation of parts about the angle of the anterior chamber resemble that met with in animals.

CONGENITAL ABNORMALITIES OF THE LIGAMENTUM PECTINATUM AND THEIR RELATION TO CONGENITAL GLAUCOMA.

The congenital abnormalities which are met with in connexion with the ligamentum pectinatum are of special interest in the connexion which they have with some forms of buphthalmos. It must be borne in mind that the condition of buphthalmos is simply a manifestation of increased tension in a child's eye, and that as there are many causes which may give rise to increase of tension, so buphthalmos may be brought about in a variety of ways. As can be easily understood, congenital defects in the network of fibres at the angle of the anterior chamber, through which the aqueous humour filters out of the eye, would be exceedingly liable to cause some obstruction to its exit resulting in increase of tension. In a congenitally buphthalmic eye, removed from a boy, aged 14 years, I have found the ligamentum pectinatum to be completely absent. The posterior limiting membrane, instead of splitting up into a number of fibres at the angle of the anterior chamber, continued round it and extended for a short distance along the anterior surface of the iris as a hyaline structure lined by endothelial cells which terminated rather abruptly. Externally to the angle of the chamber in this eye there was a broad adhesion of the root of the iris to the sclerotic, to which also the ciliary muscle was attached, but neither fibres of the ligamentum pectinatum nor a canal of Schlemm could be detected.

Out of six congenitally microphthalmic human eyes which I have measured (Table III.) I have found four in which the lateral diameter of the cornea was more than half the antero-posterior diameter of the globe, one in which it was exactly half, and one in which it was slightly less than half. So that in all except one of these eyes the relation of the size of the cornea to the globe resembled the pre-natal or pre-human condition.

TABLE III.

No.	Eyeball.			Cornea.	
	Antero-posterior.	Lateral.	Vertical.	Lateral.	Vertical.
1	19·0 mm.	18·0 mm.	18·0 mm.	9·5 mm.	8·5 mm.
2	17·0 ,,	18·0 ,,	16·5 ,,	8·25 ,,	7·5 ,,
3	15·5 ,,	—	14·0 ,,	9·0 ,,	—
4	13·5 ,,	12·0 mm.	12·0 ,,	8·5 ,,	5·5 mm.
5	19·0 ,,	20·0 ,,	20·0 ,,	11·5 ,,	10·5 ,,
6	20·0 ,,	20·0 ,,	20·0 ,,	11·0 ,,	10·5 ,,

No. 2 in the above table was an eye which had coloboma of the iris, displacement of the lens backwards, and other congenital defects (a full description of it is published in the Transactions of the Ophthalmological Society of the United Kingdom, vol. xiii., p. 116). In sections of it the extreme angle of the anterior chamber is seen to be almost on a level with the termination of Descemet's membrane. Directly this membrane has split up into the ligamentum pectinatum some of the fibres of the latter curve back almost at a right angle and pass to the root of the iris. Between the trabeculæ of the ligamentum pectinatum nearest the angle of the anterior chamber the spaces are large. A line drawn vertically backwards through the canal of Schlemm passes through the ligamentum pectinatum, not through the angle of the anterior chamber. The position of the ciliary processes is much distorted owing to the faulty position of the lens.

No. 3 in the table was an eye with a congenitally persistent and patent hyaloid artery and fibrous tissue formation in the vitreous chamber (a detailed description of it is given in the Royal London Ophthalmic Hospital Reports, vol. xiii., p. 92). In sections of it the canal of Schlemm is seen some distance externally to the angle of the anterior chamber. The ciliary processes and large circular artery of the iris are well external to a line drawn vertically backwards through it. There is a well-marked cavernous zone to the ligamentum pectinatum.

No. 4 in the table was a microphthalmic eye, a description of which I will give later. In it the condition of the ligamentum pectinatum and the relation of parts about the angle of the anterior chamber are seen to be similar to that in No. 3

No. 5 in the table had considerable defect in the development of the iris in its whole circumference, which led to its being described clinically as a case of iridermia (a detailed description of it is published in the Transactions of the Ophthalmological Society, vol. xiii., p. 128). The condition of the ligamentum pectinatum in this case closely resembles that met with in the ungulata. In some sections portions of the fibrous tissue from the anterior part of the iris seem to pass forwards to the posterior surface of the cornea in the position where Descemet's membrane ends and the ligamentum pectinatum begins. Externally to this prolongation forwards of iris tissue are some irregular trabeculæ with large spaces between them, and anteriorly and externally to this cavernous zone are the laminated fibres of the ligamentum pectinatum with slit-like spaces between them.

In these eyes the structure of the ligamentum pectinatum and the relation of parts about the angle of the anterior chamber seem to have remained in their fœtal condition and to have simulated that met with in lower mammals. Probably on account of the smallness of the eyeballs these abnormalities in the filtration area did not cause sufficient obstruction to the exit of the aqueous humour to give rise to increase of tension. In several congenitally buphthalmic eyes bands of adhesion have been seen stretching across the angle of the anterior chamber between the root of the iris and the periphery of the cornea. These sometimes consist of delicate fibres only and are sometimes quite broad adhesions. As the eyeball enlarges and the anterior chamber becomes deepened these adhesions may break through, then loose tags of fibres are met with. Mr. Richardson Cross[21] published the description of a careful microscopical examination which he had made of three congenitally glaucomatous eyes. Speaking of the filtration area in these eyes he says: "There was in No. 1 a definite adhesion of the root of the iris to the ligamentum; No. 2, no definite adhesion, but strands of tissue suggestive of a former contact of iris and cornea which has given way; No. 3, distinct block of considerable width occluding the angle." I have elsewhere described these adhesions as due to a congenital failure in the complete separation of the anterior surface of the iris from the posterior surface of the cornea. This they certainly are, but the more extended examination which I have recently made of the eyes of animals leads me to think that some of them are better spoken of as an abnormal persistence of the pre-human or pre-natal condition of the ligamentum pectinatum.

ARRANGEMENT OF PARTS ABOUT THE ANGLE OF THE ANTERIOR CHAMBER IN BIRDS, REPTILES, AND FISH.

Before passing from the consideration of the arrangement of parts about the angle of the anterior chamber I wish to refer briefly to the examinations of this region of the eye which I have made in animals other than mammals. In birds, in whom the cornea is very convex, the front portion much prolonged forwards, and the anterior chamber very deep, the ligamentum pectinatum is an extensive structure. Thus in a pigeon's eye I find it to consist of a number of radiating delicate fibres and branching cells. Starting at the sclero-corneal margin a little anterior to the level of the root of the iris it extends backwards a considerable distance between the striated muscle of Crampton and the portion of the ciliary body connected with the ciliary processes. The canal of Schlemm is large and in the sections remains widely open. In a snake's (coluber natrix) eye the ligamentum pectinatum is seen as a definite collection of fibres stretching from the back of the cornea to the rudimentary ciliary body and the canal of Schlemm is a channel of considerable size. In fish, in which the anterior portion of the eye is much flattened and the anterior chamber very shallow, the arrangement of parts about its angle is of a much simpler character, though they vary considerably in different species. Thus in a carp (carassius auratus) I find at the angle

[21] Transactions of the Ophthalmological Society of the United Kingdom, vol. xvi.

of the anterior chamber, filling a considerable part of the space between the iris and posterior surface of the cornea, a mass of large endothelial cells. No canal of Schlemm is present, but at one part of the circumference of the chamber large blood channels on the surface of the choroid extend forwards between this mass of cells and the iris, and their lumen is only separated from the chamber by a thin vessel wall. In the other teleostean fish which I have examined this mass of cells at the angle of the chamber is much less extensive, the cells themselves being elongated, sometimes branching and forming a network. In none have I met with any regular canal of Schlemm, only the prolongation forwards of a choroidal vessel as above described. In the elasmobranch fish the cells at the angle of the chamber branch more and form a more pronounced network. In the lesser spotted dog fish (scyllium catulus) in the portion of the chamber in the neighbourhood of the campanula and of the ocular cleft, there are some fibres lined by cells which present an arrangement much like the ligamentum pectinatum in mammals, and external to it is a large channel which can be traced back to communicate with the choroidal and anterior perforating vessels.

THE CILIARY BODY THE ONLY SOURCE OF INTRA-OCULAR NUTRIENT FLUID IN MAMMALS.

In man and other mammals anatomical, clinical, and experimental evidence goes to show that the fluid which circulates in the vitreous and aqueous chambers, and which gives nutriment to the lens, is secreted by the ciliary body. In them it would seem that this is its only source and that the other vascular structures in the eye play no part in its production, for we find that each of them may be absent without any diminution of the intra-ocular tension taking place. In cases where the iris is absent congenitally or as the result of traumatism normal tension is as a rule fully maintained. So also is it when the retinal circulation is completely blocked by embolism of the central artery, or when there is almost complete congenital absence of the choroid, as in a remarkable case shown at the Ophthalmological Society by J. Tatham Thompson last year.[22] In it ophthalmoscopically the fundi presented throughout the appearance of dazzling white sclera, with retinal vessels coursing over it as seen in coloboma of the choroid, no chorio-capillaris or red reflex being seen except at the macular region. The following is a case in which as the result of the operation of optico-ciliary neurectomy, performed for the relief of pain in glaucoma, the retina and choroid became completely atrophied and yet the tension remained increased.

The patient was a man, aged 44 years, who had had an iridectomy performed on the eye for acute glaucoma which did not, however, relieve the tension. The eye became blind and the pain continued but he refused to have it removed, so five months after the iridectomy an optico-ciliary neurectomy was performed. The pain was then for a time relieved, but two years later it had again become so severe that he consented to have the eye excised. The tension at that time was noted as + 3. On pathological examination of the eyeball the lens, which was clear, appeared to be healthy. The vitreous was only slightly shrunken. The choroid and retina, as far forwards as the equator of the globe, were most extremely atrophied. Microscopically no blood-vessels could be detected in the former, its elastic lamina being the only part of it that could be made out, while the latter was represented by a strand of fibrous tissue with a few scattered pigment epithelial cells in it. In front of the equator the atrophy of these structures was less marked; a few blood-vessels were present in the choroid, while in the retina the two nuclear layers could be differentiated though just behind the ora serrata it had some cystic spaces in it. The ciliary body was not more atrophied than was to be expected in a case of glaucoma of such long standing.

COMPARATIVE ANATOMY OF THE CILIARY BODY.

In other animals than mammals and in the human fœtal eye there are other sources for nutrient supply to the intra-ocular structures in place of, or in addition to, the ciliary body. In eels both the common and conger (anguilla anguilla and conger vulgaris) and in a species of carp (carassius auratus) I find there is no ciliary body, no pars ciliaris retinæ. The retina proper ends at the base of the iris and is then continued, on the back of that membrane, as a single row of cells which are at first unpigmented and only become pigmented a short distance from where they turn round at the tip to join the outer deeply pigmented layer of the secondary optic vesicle. In the other teleostean fish, of which I have examined sections—viz., whiting (gadus merlangus), cod (gadus morrhua), mackerel (scomber scombrus), and plaice (pleuronectis platessa)—the termination of the retina does not extend quite so far forwards, it does not quite reach up to the root of the iris, and whereas in the former it extends as far as, or farther than, the anterior margin of the cartilage in the sclerotic, in these latter it is situated behind that point. The pars iridis retinæ has, however, the same arrangement. Amongst the elasmobranch fish I have sections from the thornback (raja clavata), the lesser spotted dog-fish (scyllium catulus) and the spring dog-fish (acanthus vulgarus). In them I find the displacement backwards of the anterior termination of the retina still more marked. The area which exists between it and the root of the iris is thrown into shallow folds laterally and has some slight elevations and depressions antero-posteriorly. The inner row of cells which line this area, which may be regarded as the pars ciliaris retinæ, are unpigmented, whilst both layers of the secondary optic vesicle on the back of the iris are pigmented. Immediately outside the pigmented layer of the rudimentary ciliary body large blood-vessels are seen. In sections of the spring dog-fish passing across the campanula elevations and depressions much more pronounced and closely resembling the ciliary processes in a mammal's eye are met with.

I have sections of the eyes of the following reptiles: the land tortoise (testudo Græca), the slow worm (anguis fragilis), the sand lizard (lacerta agilis), and the common ringed snake (coluber natrix). In all except the last the ciliary body is represented by a short area, without any elevations or depressions, situated between the termination of the retina and the root of the iris, which is lined by a single row of unpigmented cells inside the pigment epithelial layer. In the snake there is a well-marked fold protruding inwards in the ciliary region lined by columnar-shaped unpigmented cells.

The source of the intra-ocular nutrient fluid in animals, in which there is no ciliary body or in which it is only very rudimentary, can only definitely be determined by experiment. The following anatomical points are, however, very significant. In fish the anterior chamber is comparatively very shallow and the amount of aqueous humour very small. In all those of which I have examined sections the blood-vessels in the iris situated immediately external to the pigment epithelium are large and numerous. In eels I find blood-vessels attached to and forming a network in the hyaloid membrane of the vitreous humour. The main trunk from which these vessels are derived passes in from the choroid along the lower border of the optic nerve through a cleft in the two layers of the retina. In the other teleostean fish which I have examined the line of the ocular cleft in the retina is discernible in its whole length. Blood-vessels pass through it, forming a vascular process which projects slightly into the vitreous chamber. These vessels start from a rete mirabile which is met with in the choroid of these fish surrounding the optic nerve, and which has been termed the choroidal gland. In the elasmobranch fish in which ciliary processes are met with there is no rete mirabile in the choroid and no persistent cleft with a projecting vascular process.

In many reptiles a collection of blood-vessels termed the falciform process protrudes into the vitreous chamber which in birds is modified into the pigmented plicated structure called the pecten. I have bleached sections of the pecten from a cock's eye. I find it composed of some large main blood-vessels and many very small ones the latter having entirely cellular walls. In fact, it closely resembles in structure the choroidal coat of which it is a prolongation, having, however, a rather finer capillary plexus. Birds, therefore, not only possess well-formed ciliary processes but also a special vascular arrangement in the vitreous chamber. In neither of the two lowest and very exceptional mammals the ornithorrhynchus and the echidna is any trace of a pecten to be found. The ciliary processes in these animals, though not so markedly convoluted as in other mammals, show in antero-posterior sections many well-developed folds. The length and amount of plication of the ciliary processes vary considerably in different mammals, but in all except the quadrumina the extent of the non-plicated area of the ciliary body is markedly less than in man.

[22] Transactions of the Ophthalmological Society of the United Kingdom, vol. xix., p. 140.

DEVELOPMENT OF THE CILIARY BODY IN THE HUMAN EYE.

In a human fœtal eye of the sixth week no iris or ciliary processes can be detected. The cells composing the outer layer of the secondary optic vesicle are not pigmented and the inner layer, which is composed of undifferentiated round cells with large nuclei, is as thick at its anterior termination near the sclero-corneal margin as elsewhere. Even at this early age a blood channel is to be detected passing through the cleft in the secondary optic vesicle into the rudimentary vitreous humour. At the tenth week the anterior termination of the secondary optic vesicle, which lies for some distance in close contact with the sides of the lens, has begun to insinuate itself between the lens and cornea to form the posterior layers of the iris. It has also a little further back, where it lies in contact with the sides of the lens, become slightly corrugated, forming the commencement of the ciliary processes. Its outer layer is by this time deeply pigmented and its inner layer, from the point where it first touches the lens forwards is much thinner than elsewhere, though it apparently consists of more than one row of cells. It remains unpigmented until just before it begins to turn round to join the outer layer. The blood-vessels in the posterior part of the fibro-vascular sheath of the lens are by the tenth week well developed, but I am unable in my sections to detect any in the anterior part of the sheath. By the fourth month the ciliary processes have considerably grown; their apices still touch the sides of the lens. The inner layer of the secondary optic vesicle covering them, as in the adult, consists of a single row of unpigmented cells, while on the inner surface of the iris they are pigmented, not, however, so deeply pigmented as they become later. The ora serrata of the retina is situated where the ciliary processes end posteriorly, there being no non-plicated area to the ciliary body. The non-plicated portion of the ciliary body commences to form after the fourth month, gradually lengthening, and the ora serrata gradually being displaced further and further back until the eyeball reaches its full dimensions. The plexus of blood-vessels around the lens I have found still patent in sections of the fœtus at the sixth month: by the seventh month they have quite disappeared. In many congenital microphthalmic eyes which I have examined the non-plicated portion of the ciliary body is seen to be relatively smaller than the rest of the structure.

MICROPHTHALMIC EYE WITH PERSISTENT FŒTAL VASCULAR SYSTEM AND ABSENCE OF CILIARY PROCESSES.

I have only met with one human eye in which there was anything approaching complete absence of the ciliary processes, and in it the vascular system of the vitreous and lens which exists during fœtal life had failed to become obliterated, its vessels remaining patent and carrying blood. It was a congenitally microphthalmic eye removed from a child two months old by Dr. Hector Mackenzie of Torquay, to whom I am indebted for the specimen. It measured only 12 millimetres antero-posteriorly and 11·5 millimetres vertically and transversely. The cornea was clear but small, measuring six millimetres transversely. No iris could be seen through it. The lens appeared opaque and calcareous. Microscopical examination of sections of the eye show an exceedingly small rudimentary iris, better formed on one side than on the other. Where best developed it does not measure more than one millimetre in length but possesses a sphincter muscle. On the opposite side no sphincter muscle is to be seen; the pigmented epithelium turns forward at the tip to form a nodulated mass. Extending from the anterior surface of the rudimentary iris on one side across the pupil in contact with the anterior surface of the lens to the anterior surface of the iris on the other side is a thin membrane composed mainly of flattened cells with large nuclei. Extending also from the anterior surface of the iris round its pupillary margin and backwards to the sides of the lens is a membrane composed in part of the same flattened cells but having in it besides a plexus of blood-vessels. These vessels in the sections are seen to be patent and to contain blood corpuscles; they can be traced forwards to the stroma of the iris, where they join the blood-vessels in that structure. Continued backwards they are seen to start from the posterior pole of the lens, where an artery, passing through the centre of the vitreous, breaks up in a thin membrane into numerous branches. The lens is very small and presents a very irregular outline; its nucleus is the only part in which the lens fibres appear well formed; in the cortical portions there is much irregularly arranged hyaline substance. Cells line the whole of the posterior as well as the anterior part of the capsule. At the anterior pole the capsule is much corrugated and on its inner surface is some dense laminated tissue with flattened cells between the laminæ and calcareous deposit, like what is usually met with in anterior polar cataracts. A ciliary muscle is present composed entirely of longitudinally arranged spindle-shaped cells. Its inner surface forms an even curve lined by pigment epithelial cells. On either side of the sections only one small knob-like projection is seen to protrude inwards from it.

The unpigmented layer of cells forming the pars ciliaris retinæ, together with some pigmented cells and the anterior extremity of the retina in the region of the ora serrata, are seen to be in great part in contact with the fibro-vascular sheath surrounding the lens. The sides of the lens, owing to its small size, are separated some distance from the ciliary body. Nowhere is the unpigmented layer of the pars ciliaris retinæ seen in contact with the pigmented layer. The retina at the ora serrata is also separated from the choroid; it is well formed but has several rucks in it radiating from the optic disc. The choroid shows no abnormality. The central artery of the vitreous starts from that in the optic nerve; it is for a short distance surrounded by a sheath composed of long spindle-shaped cells, but anteriorly lies without any sheath in a canal separated only by a hyaline membrane from the vitreous. The detached folds of the pars ciliaris retinæ and the retina itself at the ora serrata where they lie in contact with the fibro-vascular sheath of the lens have cellular connexions with it, while in places very much elongated cells can be seen, apparently partly developed fibres of the suspensory ligament.

The probable explanation of the appearances of the ciliary body in this eye is that at the stage of fœtal life when the portion of the secondary optic vesicle which comes to line the ciliary body lay in contact with the sides of the lens adhesion formed between them which should later have developed into fibres of the suspensory ligament. Owing, however, to the persistence of the blood-vessels in the sheath these adhesions became of a tougher character than usual; consequently when the ciliary body in the process of growth became separated from the sides of the lens, instead of these adhesions stretching out into fibres, a part of the inner layer of the secondary optic vesicle became torn from the outer layer and remained in contact with the lens.

I have previously had the opportunity of examining and recording the appearances of several eyes in which the central artery of the vitreous had remained persistent and patent, but in none of these have I been able to trace the branches into which it broke up round the sides of the lens to join the vessels of the iris, as in this case. In the specimens which I have previously examined, so far as I could make out, the vessels terminated in a mass of fibrous tissue in the anterior part of the vitreous. In the present case there is none of this abnormal fibrous tissue formation in the vitreous.

MICROPHTHALMIC EYES WITH CYSTIC PROTRUSIONS.

The case just recorded is an example of a microphthalmic eye without any defect in connexion with the fœtal cleft; in it the choroid and sclerotic were complete and well formed. In many microphthalmic eyes there is an imperfect closure of the cleft, accompanied by a protrusion of a portion of the retina through the gap. Sometimes the protuberant retina becomes distended into a cyst. Such a cyst may be so large and the eyeball with which it is connected so small that the latter is clinically completely concealed from view. The apparent absence of the eyeball in such cases has led to some of them being described as cases of anophthalmos, a title which, strictly speaking, is not applicable. Of recent years quite a number of records have been published of the microscopical appearances of microphthalmic eyes with protrusions of retinal tissue. I have myself recorded the details of seven such eyes, and Kundrat, Rindfleisch, De Lapersonne, Gallemaerts, Czermak, Mitvalsky and Hess have recorded others. A study of the descriptions of all these specimens shows that though they are alike in being microphthalmic eyes with a protrusion of retinal tissue through a gap in the choroid and sclerotic, they present considerable variations, both as regards the character of the

protrusion and as to the state of development or mal-development of the other structures of the eyeball. The protuberant portion of retina consists of varying amounts from simply a knuckle of tissue to quite two-thirds of that membrane. In some cases it forms a solid mass surrounded and intermixed with bands of fibrous tissue. In others folds of retina have become distended into one or more fluid-containing cystic protrusions which are bounded externally by a fibrous-tissue coat and have a lobulated outline.

The degree of development of the protuberant retina is also very different in different cases. When folds of it have become distended in the form of cystic protrusions it may be so atrophied as merely to be represented by a few groups of nuclear bodies and a little retiform tissue. On the other hand, it may remain so well developed that some of its different layers are easily distinguished. In the latter cases it is found that sometimes the inner surface of the retina is turned towards the interior of the cyst, and at other times just the reverse, the inner surface of the retina being directed towards its fibrous outer wall. The region of the globe in which the protrusion is situated is nearly always its lower and posterior part, sometimes a little further forwards than others. In one case, besides the gap in the sclerotic there was a considerable deficiency in the outer sheath of the optic nerve.

Speaking generally, the larger the amount of the retinal protrusion the smaller and more imperfectly developed is the eyeball. When the protrusion is not very extensive the eyeball may present little external evidence of malformation beyond its defect in size. The lens and vitreous may also appear quite normal. On the other hand, there are numerous congenital defects which may be met with in association with it, such as vascularity of the cornea, formation of cartilage in the sclerotic, coloboma of iris, persistent pupillary membrane, displacement of ciliary processes, cataract, persistence of blood-vessels in the vitreous and formation of fibrous tissue in it, detachments of the retina elsewhere than at the protrusion, and hyaline nodules in the choroid.

In considering the causation of this congenital malformation I would first like to point out that in none of the seven specimens which I have examined is there anything which would lead me to suppose that the changes shown were inflammatory in origin. In one case there were some collections of round cells found in the cyst wall which might have been inflammatory; if so they were of recent production, and as the eye was not removed until the patient was 18 years old they cannot be considered as having had anything to do with the causation of the congenital defect. I lay stress on this point because Deutschmann in 1881, from his investigation of a case of bilateral coloboma of the iris and choroid in a rabbit, advanced the theory, which has been widely accepted and quoted, that so-called arrests of development were only changed developments of the eye the result of intra-uterine inflammation. Hess brought forward several cases which, like those which I have examined, go to show that inflammation has very much less to do with the production of congenital malformations than has generally been supposed. The difference in the position of the retina in these cases suggests that they are not all produced in precisely the same way. When the normal outer surface of the retina is external in the cyst it is possible, as Alt has suggested, that part of the lower wall of the globe, where there was a defect in the choroid and partial defect in the sclerotic, may have been stretched before the intra-ocular pressure and the lining retina pushed into the depression formed. Where, however, the normal outer surface of the retina is towards the interior of a cyst and where the amount of retina which protrudes is very large, such an explanation cannot be accepted, and Kundrat's view, that the cystic formations are due to the projection during development of a portion of the retinal tissue through the fœtal cleft into the subjacent mesoblastic tissue, would seem more applicable. The retina in the human fœtal eye is normally thrown into folds and it is not difficult to understand how, as the result of some imperfect development of the vitreous humour or delayed closure of the cleft, one or more of these folds of the inner layer of the secondary optic vesicle might become extruded through the fœtal ocular cleft into the surrounding mesoblast, and subsequently become expanded into one or more fluid-containing cysts.

A CASE OF INTERSTITIAL FIBROID TUMOUR SLOUGHING "EN MASSE" AND SOME OTHER CASES OF FIBROID TUMOURS OF THE UTERUS.[1]

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AMONG the following nine cases of fibroid tumour of the uterus Case 7 is especially interesting on account of its rarity. It was a case where a large interstitial fibroid tumour situated in the posterior wall of the body of the uterus suddenly sloughed and the sloughing mass protruded, not through the os uteri, but through an opening spontaneously formed in the posterior lip of the cervix. As no operation was done the case may, I think, fairly be classed as one in which a fibroid tumour of the uterus was the direct cause of the patient's death. Such a thing is certainly a rare event, though perhaps not quite so rare as is sometimes supposed. The other cases are interesting chiefly as typical examples of current methods of treatment.

Case 1 was one of uterine fibroids complicated by suppurating ovarian cyst; both sets of uterine appendages were removed and the fibroid has diminished very much in consequence. Cases 2, 3, and 9 are instances of abdominal hysterectomy with intra-peritoneal treatment of the stump. In Case 3 a point of interest was that the fibroid had undergone cystic change and that one cavity so produced contained puriform fluid. Case 4 was one of pregnancy complicated with large subperitoneal fibroid, in which expectant treatment was adopted with a good result as regards the labour and in which at present symptoms are absent. Cases 5 and 6 illustrate the removal by morcellement of submucous fibroids from the cavity of the body of the uterus after dilatation of the cervix; and Case 8 is an example of myomectomy for large subperitoneal fibroid with intra-peritoneal treatment of the stump. In this case the diagnosis between fibroid and ovarian tumour was doubtful till the abdomen had been opened.

CASE 1. *Suppurating ovarian tumour (left side) and fibroid tumours of the uterus; ovariotomy (left side) and removal of uterine appendages on the right side; marked diminution in size of the fibroid after operation with complete relief of symptoms.*—The patient, a single woman, aged 37 years, was admitted under my care into the London Hospital on Jan. 11th, 1897. She was sent to me by Dr. Deane of Leytonstone. About two years previously she noticed that the lower abdomen was bigger than it ought to be, but she never felt any particular lump there. For the previous two years the quantity lost at the menstrual periods had been excessive and for the previous month there had been a constant sanious discharge. A month previously she noticed swelling of both legs, principally the left, also aching in the legs. Both conditions were somewhat relieved by lying down. During the same time (one month) there had been pain in the lower abdomen, which was chiefly referred to the left iliac region. The catamenia began when she was fourteen years of age and had recurred regularly every four weeks till the beginning of the present illness. The quantity lost was moderate and there was very little pain at the periods; what little pain she had occurred on the first day of the period and was relieved as the flow became established. Her general health had been good till the present illness began.

On admission the patient was found to be thin, sallow, looking, and anæmic. On abdominal examination a hard-irregular swelling was felt in the lower abdomen rising out of the pelvis and reaching half way to the umbilicus. It extended outwards to within two inches of the left anterior superior iliac spine. On vaginal examination the tumour in the hypogastric region was found to be the body of the uterus, considerably enlarged, and a good deal less moveable than it should be. There was a softer swelling in the left lateral fornix such as might be produced by a dilated Fallopian tube or a small ovarian cyst. The sound passed three inches and five-eighths of an inch with some difficulty. The case

[1] A paper read before the Harveian Society of London on Nov. 16th, 1899.

appeared to me to be one of uterine fibroids probably complicated by a small ovarian cyst on the left side. The patient was kept in bed for nearly three weeks prior to operation with the view of improving her general condition, and during this time the swelling in the legs became much less marked.

Operation was performed on Feb. 5th, 1897. The abdomen was opened in the usual way. The central tumour, as was expected, was then seen to be the uterus enlarged by fibroids, and there was an ovarian cyst on the left side of the size of a cocoanut, which was intimately adherent to the sigmoid flexure and in the pelvis. During the separation of the cyst it burst and pus escaped. A satisfactory pedicle was obtained and the ovarian cyst was removed in the usual manner. The uterine appendages on the right side were practically normal, but I thought it well to remove them with the object of influencing the uterine fibroids. As some pus had escaped during the removal of the cyst the peritoneum was washed out with warm normal saline solution and a drain of iodoform gauze was left in the pelvis; the rest of the wound was closed as usual. Examination of the parts removed from the left side showed that the left Fallopian tube was greatly thickened so as to be equal in diameter to the ball of the thumb. No trace of its fimbriated extremity could be seen, the outer end of the tube being firmly attached to the suppurating ovarian cyst, but not communicating with it. The patient made an uneventful recovery and left the hospital on March 6th, 1897.

I have seen the patient on several occasions since and she has remained quite well. There was a slight show about June, 1897; then nothing was seen for nine months, then she had three periods lasting ten days, six days, and four days respectively. When I saw her in Feburary, 1899, there had been nothing seen since March, 1898. The case illustrates that the establishment of the menopause after removal of the uterine appendages may be gradual and be spread over an interval of 18 months or two years. The tumour has diminished in size very much. Only on deep pressure can anything be felt of it at all on abdominal examination alone.

CASE 2. *Abdominal hysterectomy with intra-peritoneal treatment of the stump; uterus enlarged by multiple fibroids forming a large abdominal tumour extending to the epigastric region; good recovery.*—A married woman, aged 43 years, was admitted under my care into the London Hospital on Nov. 11th, 1898. She was sent to me by Dr. Fennell of Tulse-hill. The patient stated that she had been married five years but had not been pregnant. Her husband was 69 years old. The catamenia began when she was about 15 years of age and had recurred quite regularly till three months previously. She always had lost a rather large quantity at the periods and as a rule they lasted from seven to nine days. Till ten years previously the periods were accompanied by biliousness and sickness. During the three months preceding admission the periods had occurred every fortnight and had lasted a fortnight, so that there had been an almost continuous loss of blood. The last period occurred a month previously and lasted three weeks. There was then a week without any loss and then it began again. There had been no dysmenorrhœa. She first noticed a swelling in the abdomen 12 months previously but thought it was due to flatulence. Six weeks previously she consulted her own medical man as the swelling had rapidly increased. She had noticed that the swelling became larger just before the period and decreased slightly when the flow began. She had lost flesh of late.

On examination the abdomen was seen to be prominent especially on the right side from the epigastrium downwards. The surface of the prominence was slightly irregular. The highest point of the tumour was 13½ inches from the pubes measured along the convexity. The girth at the umbilicus was 34 inches; three inches lower down it was 35 inches. The umbilicus was level with the skin. On palpation a hard irregular tumour was felt rising from the pelvis and reaching the level mentioned above in the epigastric region. One portion of the tumour which measured three inches by two inches just to the right of the umbilicus could be moved rather freely on the deeper seated portion of the mass. The whole tumour could be moved a little from side to side and also about one and a half inches upwards. A well-marked uterine souffle could be heard over various parts of the tumour. On vaginal examination there was seen a good deal of recent blood about the parts. The hymen was tight and the vagina was greatly distended. The vaginal portion of the cervix was so much drawn up that the os uteri could only just be touched even when the tumour in the abdomen was pushed towards the pelvis. Under the circumstances I did not try to pass the sound as it seemed impossible to do so without giving the patient an anæsthetic and the diagnosis was obvious without it.

Operation was performed on Nov. 13th, 1898. The abdomen was opened by a long median incision extending from the middle of the epigastric region to within one and a half inches of the pubes. The tumour was then brought outside and the upper portion of the incision as far as the umbilicus was then closed with silk sutures. The upper portion of the right broad ligament was then ligatured in two places and the part between the ligatures was divided. The outer of these ligatures was so placed that the right ovary was not removed. The left broad ligament was treated in a similar way and divided, but on this side the ligatures were so placed that the left ovary remained attached to the tumour and was subsequently removed with it. Anterior and posterior flaps of peritoneum were then made, the flaps being stripped to what was judged to be the level of the internal os uteri. The uterine arteries, which could be well seen, were then tied at this level and the body of the uterus with the fibroids was cut away. The stump consisted of the cervix; its cut edges were approximated with stout silk sutures and the peritoneal flaps were then stitched over the stump by numerous interrupted Lembert's sutures. A Keith's drainage tube was inserted and the rest of the abdominal wound was closed. The patient had some slight rise of temperature during the first few days after the operation, but at the end of the first week the temperature was normal. She subsequently did quite well and she left the hospital on Dec. 14th, 1898.

The tumour weighed 7 pounds 11 ounces some time after it had been cut into and after what fluid it contained had drained away. It consisted of the uterus greatly enlarged by multiple fibroids. The cavity of the uterus was much elongated, so that the sound would have passed seven or eight inches. The specimen illustrated beautifully every variety of fibroid except submucous fibroids with distinct neck and fibroid polypi; but peritoneal fibroids, interstitial fibroids, and tumours partly submucous were all represented.

I heard from this patient a year after the operation that she was in very good health and during the past year had been able to nurse her invalid husband, which she certainly could not have done in the state of health existing prior to the operation.

CASE 3. *Large abdominal tumour composed of uterus with large sub-peritoneal fibroids, one of which had undergone cystic change with formation of puriform fluid; abdominal hysterectomy with intra-peritoneal treatment of the stump; good recovery.*—A single woman, aged 38 years, was admitted into the London Hospital under my care on Jan. 31st, 1899. She was sent to me by Dr. Surtees Sumner of Guilford-street, Russell-square. The patient first noticed a small lump of the size of a pigeon's egg in the right side of the abdomen five years previously. It then caused no pain or inconvenience and she did not trouble to consult a medical man about it. The lump gradually increased in size and about three years previously she thought it moved to the left side. It had increased more rapidly during the last year and had become very hard. She had also had pain in the region of the tumour just before menstruation. On Dec. 31st, 1898, she was seized with a violent attack of pain in the abdomen; she then sent for her medical adviser and she was in bed about a week. The pain was so severe that she could not stand upright. It was relieved by hot flannels and hot-water bottles. She had a second attack of pain similar to the first, but not so severe, a week before admission. Her general health had been as a rule good. In 1892 she had influenza followed by pneumonia and phlebitis. During the last year she had lost flesh considerably. Menstruation began when the patient was 16 years of age and she had been quite regular every four weeks, losing a normal quantity and not having much pain. She had not menstruated since November, 1898. On admission the abdomen was found to be irregularly prominent, the most prominent part being at the right of, and a little below, the umbilicus. On palpation the greater part of the abdomen was found to be occupied by a hard irregular tumour. It had a fair degree of mobility from side to side and also slight mobility up and down. Nothing was heard over the tumour. On vaginal examination the hymen was found to

be extremely tight and was torn by examination. The cervix was high up, far back, and consequently difficult to reach. A hard mass was felt in the anterior fornix, apparently continuous with that in the abdomen; it had some degree of mobility. The sound was passed with great difficulty a distance of three inches.

Operation was performed on Feb. 2nd, 1899. The abdomen was opened by the usual median incision, beginning just below the umbilicus to within one and a half inches of the pubes, but before the tumour could be brought outside the wound had to be extended nearly to the ensiform cartilage. When the tumour had been drawn outside the wound the upper part of the incision as far as the umbilicus was at once closed. The remaining steps of the operation were similar to those in Case 2. The left ovary was not removed.

The tumour weighed nine pounds. It consisted principally of two subperitoneal fibroids of unequal size attached to the body of the uterus, which was moderately enlarged. The larger of these was attached to the uterus by a pedicle so thin that it could be rotated through almost a complete circle. The smaller was attached by a thicker, shorter pedicle, but it could be rotated through two-thirds of a circle. The dimensions of the larger fibroid were: length, nine inches; breadth, six and a half inches; and thickness, five inches. The dimensions of the smaller were six and a half inches by four and a half inches by three inches respectively. There was besides a small subperitoneal fibroid of the size of an egg attached to the uterus by a pedicle allowing considerable rotation. The portion of the uterus (body) removed with the tumours was three inches long, three inches broad, and one and a half inches thick. On section several smaller fibroids were seen in the body of the uterus. On section of the larger subperitoneal fibroid it was seen to have undergone cystic degeneration at one place producing a cavity the cut edge of which measured two and a half inches by three inches. This cavity contained pus. The smaller subperitoneal fibroid showed evidence of commencing cystic changes.

The patient made a good recovery and she left the hospital on March 1st. The scar measured seven and a quarter inches.

I have seen the patient once since she went out. She was then quite well and had then been able to resume her work.

As regards the attacks of severe pain which were noticed prior to the operation it appears probable that they may have been caused by the axial rotation of either of the large subperitoneal fibroids, which, as mentioned above, were very freely moveable on the long axis. The pain might also have been due to a loop of bowel getting nipped between the two large subperitoneal fibroids. The larger of these had undergone cystic change at one place with formation of puriform fluid, and, apart from operation, it is practically certain that other serious symptoms must have arisen before long.

CASE 4. *Large subperitoneal fibroid tumour complicating pregnancy; expectant treatment; normal labour; subsequent moderate diminution in size of the fibroid; absence of symptoms at present.*—The patient, a married woman, aged 29 years, was admitted into the London Hospital under my care on April 25th, 1899. She was sent to me by Dr. Dent of Woodford. She stated that she was married 12 months previously and that up till then she had always enjoyed very good health. The catamenia began when she was 13 years old and she had always been regular every four weeks, the period lasting five days. The last period had occurred in August, 1898. The patient believed herself to be eight months pregnant. About six weeks after the last period she noticed a swelling in the left side of the abdomen; it was not very big but she had to let out her clothes. This swelling gradually increased till January, 1898, since which time it appeared to have remained stationary. About December, 1898, she noticed another swelling in the right side of the lower abdomen (the pregnant uterus), and this had continued to enlarge up to the date of her admission. On Jan. 17th she had a sudden attack of pain in the right side of the abdomen. The pain was very severe and lasted for nine hours. She had more or less pain for a week after this and then remained free from pain for a month. She then had another attack of pain, not quite so severe as the first and not lasting so long. Since then she had had similar attacks about once a month and had been obliged to remain in bed since January—i.e., three months.

I may say that I saw the patient in consultation with her own medical man in January and I diagnosed a large subperitoneal fibroid on the left side complicating pregnancy, and expressed the opinion that there was no reason for interrupting the ordinary course of the pregnancy. On admission the abdomen was found to be irregularly enlarged. There were two prominences divided by a depression; the larger one to the right was the pregnant uterus. The tumour of the left side extended well down into the flank; it met the pregnant uterus in the middle line and extended as low as a finger's breadth from the left anterior superior iliac spine. It was smooth in outline, hard, and slightly tender. There were various areas of resonance between the uterus and the tumour corresponding to the depression between them. As low as the umbilicus the tumours were easily differentiated, but below that level they appeared to merge into one. On vaginal examination there were the ordinary signs of pregnancy and there was no evidence that the tumour encroached on the true pelvis.

On June 7th the patient was delivered naturally of a female child. There was no post-partum hæmorrhage. On the 17th the highest part of the tumour to the left seemed to be about two fingers'-breadth below the ribs in the left nipple line. The uterus lay to the right of this swelling but could not be separated from it. The patient went home on June 21st, 1899, with directions to come to the hospital in two or three months. She did so, and on examination then the tumour to the left had become very much smaller, but still formed a swelling that could be felt in the lower abdomen on abdominal palpation alone. It seemed on bimanual examination to be connected with the uterus and to have all the characters of a sub-peritoneal fibroid. As the patient was feeling perfectly well and not complaining of any inconvenience at all I advised her for the present not to have anything done, but to come up to the hospital again if she had any symptoms.

CASE 5. *Menorrhagia and metrorrhagia due to submucous fibroid of the body of the uterus; marked anæmia; dilatation of the cervix and removal of the fibroid by morcellement and enucleation; good recovery.*—A married woman, aged 38 years, was admitted into the London Hospital under my care on May 13th, 1898. The patient was sent to me by Dr. C. C. Scott of Twickenham. She had been married four and a half years but had had no children. There was one miscarriage nearly three years previously, when she was about three months pregnant. This followed a slight accident. The patient had not been quite herself since the miscarriage. Any little over-exertion caused her, as she said, "to come on unwell." The bleeding was stopped if she was able to rest. She was regular if she could rest up to Christmas, 1897. The first period after this lasted a fortnight; since then there had been irregular hæmorrhage, only going a week or two between the losses. She had lost a great deal of blood since Christmas and had had severe pain in the lower part of the back.

On admission the patient was very markedly anæmic, the mucous membranes being very white. On examination slight bleeding was still found to be going on; the uterus was enlarged, but the os uteri was not patulous. A specially prepared laminaria tent was inserted with all antiseptic precautions and the next day the patient was anæsthetised and the dilatation of the cervix completed with Hegar's dilators up to No. 26. The finger was then passed into the uterus and a submucous fibroid of the size of an orange was found attached on the posterior wall of the uterus. Although the greater part of the tumour was no doubt projecting into the cavity of the uterus a considerable portion of it was embedded in the uterine wall. The tumour was removed with considerable difficulty by cutting away piece after piece of it with long scissors and enucleating the embedded portion from the wall of the uterus with the finger. The pieces removed were collected and tied up tightly in a layer of gauze in the shape of a ball, thus giving a very good idea of the size of the tumour within the uterus before the operation. I could not detect the presence of any other fibroid. The patient subsequently did very well; she had no rise of temperature after the operation.

CASE 6. *Menorrhagia and metrorrhagia due to submucous fibroid in the body of the uterus; dilatation of the cervix; removal of the tumour by morcellement; good recovery.*—A single woman, aged 44 years, was admitted under my care into the London Hospital on July 14th, 1899. The patient was sent to me by Dr. McMullen of Brixton. She stated that she was quite well and that menstruation was perfectly regular till two years before admission. She then noticed that the loss of blood at the periods was greater than it had been before. This went on for a year and did not affect her much. During the

past twelve months not only had the loss at the periods increased but she had had losses of blood between the periods. These losses at first only occurred occasionally, but latterly she had had a constant loss of slight quantities of blood between the periods and also she had had a dull aching pain in the left iliac region. This pain had been worse during menstruation, especially just before the flow became fully established. She had not lost flesh but felt somewhat weaker owing to the constant loss of blood.

On examination the uterus was found to be distinctly enlarged in the normal position and freely moveable. The external os was not patulous; there was a small mucous polypus at the external os of the size of a pea. The cervix was dilated as in the preceding case and a submucous fibroid of the size of a Tangerine orange was removed by enucleation and morcellement. The patient made an uninterrupted recovery and left the hospital on August 16th.

CASE 7. *Septicæmia due to spontaneous sloughing "en masse" of an interstitial fibroid in the posterior wall of the body of the uterus; spontaneous extrusion of a portion of sloughing tumour through an opening in the posterior lip of the cervix; manual removal of the remainder; continued septic symptoms and death at the end of three months.*—A married woman, aged 40 years, was admitted into the London Hospital on July 20th, 1899. The patient was sent to me by Dr. Charles Grant. She had been married 12½ years and had had one child eight years previously, but had had no miscarriages. The patient had never been really strong, but the present illness dated from Christmas, 1898. The first thing that she noticed wrong was that her menstrual period then lasted three weeks as compared with four or five days, its previous duration. She sent for her medical man who ordered her to stay in bed and gave her some medicine. Between Christmas, 1898, and April, 1899, she had had two similar attacks, each lasting three weeks, and which caused her to feel so ill that she was obliged to stay in bed. In April, May, and June the periods lasted longer than they should have done, but the loss was not so great as during the attacks above mentioned. I saw the patient for the first time on May 30th and found the uterus enlarged by fibroids so as to form an abdominal tumour reaching nearly to the umbilicus. The os was a little patulous, but the vaginal portion of the cervix was not at that time at all invaded by any of the fibroid tumours. The patient was advised to take ergotin pills and a mixture containing tincture of hydrastis canadensis. About the third week in July, some six weeks after I had first seen her, her medical attendant wrote to me to say that the patient had an extremely offensive discharge and that on examination he found the upper part of the vagina occupied by a brittle offensive mass so that he was afraid she had cancer. The patient was admitted to the hospital a few days afterwards—i.e., on July 20th.

On admission she was found to have a horribly offensive discharge and the temperature was 101° F. She was very anæmic and looked very ill. On examination the uterus was felt reaching to within a finger's breadth of the umbilicus. The upper half of the vagina was occupied by a large mass generally convex downwards, very irregular in places, and very friable, so that it could be easily broken down with the finger. Under an anæsthetic a better examination was made. The external os was a slit-like opening in front of the offensive mass. The os readily admitted the finger. The anterior lip of the cervix was very thin with a sharp edge, but the posterior lip could not be recognised as such. The sloughing fibroid was not coming through the os at all, but had evidently gradually made its way through the whole of the posterior wall of the cervix, and had then burst through an opening which had formed on the posterior lip of the cervix itself. The sound passed five and a half inches. The patient was in a profoundly septic condition, as may easily be understood. She seemed to me to be in much the same condition as a patient after confinement where the placenta has not been removed and has decomposed, except that in the present instance the decomposing mass was not in the cavity of the uterus at all, but embedded in the posterior uterine wall, except the lowest portion of it, which had burrowed through the posterior lip of the cervix, producing the fungating mass occupying the upper part of the vagina. All I did in the case was to remove handfuls of the sloughing mass with the fingers, the pieces removed weighing two pounds and eight ounces; the manipulation was to some extent like that of removing a putrid placenta. The "bed" from which the mass was removed was mopped out thoroughly with tincture of iodine and washed thoroughly with iodine water. The cavity of the uterus was also washed out with iodine water. The uterus, which before removal of the sloughing mass had reached to within a finger's breadth of the umbilicus, contracted down like a uterus after a five months miscarriage so as to lie completely in the pelvis. Subsequently for a long time vaginal douches of iodine water were given every four hours and the uterus was also washed out once or twice a day for a considerable time. The patient was, however, in a profoundly septic condition on admission, and although she lived for some three months after the expulsion of the mass, fever persisted more or less and she finally died worn out by it.

The only alternative in the way of dealing with the case when the sloughing fibroid was found projecting through the posterior lip of the cervix as described would have been to let it alone to come away by itself. What the chance of recovery would have been with a putrid mass of tissue weighing two pounds eight ounces embedded for the most part in the posterior wall of the body of the uterus may be easily imagined. Although the patient finally died three months afterwards I think that removing the mass as soon as possible gave her the only chance of recovery. The case appears to me to be an extremely interesting one for many reasons. The spontaneous sloughing and extrusion *en masse* of a large intestinal fibroid such as that described is a rare event; I have not myself in nearly 15 years' experience at the London Hospital met with a similar case. Again, the direction in which the extrusion took place—i.e., through the substance of the posterior lip of the cervix—is a remarkable thing. The more natural direction would seem to be through the mucous membrane of the body of the uterus. Whether the course of treatment—of ergotin and hydrastis—had anything to do with the sloughing of the mass I cannot say. These drugs are very commonly prescribed in cases of fibroids and for long periods of months and even years without producing any such effect. Again, I feel little doubt that if abdominal hysterectomy had been performed when I first saw the case the patient would have been alive now. The occurrence of such a case illustrates at all events that what may be called the expectant treatment of large fibroids has certain definite risks and that at present it is impossible to say as regards any particular case whether such an accident as sloughing *en masse* is likely to occur or not.

CASE 8. *Large subperitoneal fibroid (five pounds and six ounces) with a thick pedicle; adhesions to several inches of intestine; removal of the tumour and uterine appendages on both sides (hydrosalpinx left side); good recovery.*—The patient, a married woman, aged 50 years, was admitted into the London Hospital on July 31st, 1899. She was sent to me by Dr. Spencer of Stoke Newington. She had been married 24 years and had had three children, the last 17 years previously. She had had no miscarriages. Menstruation had always been regular and normal up to the time of admission to the hospital. The patient stated that she had noticed that the abdomen had been getting larger for the previous two years and much larger during the previous six months. She had also had pain in the right side of the abdomen for some time. Her general health had usually been good.

On admission a large, somewhat rounded tumour was felt occupying the greater part of the abdomen and extending to within three and a half inches of the costal angle. The tumour was hard and nearly symmetrically situated as regards the middle line, extending outwards on each side to within a short distance of each anterior superior iliac spine. The surface of the tumour was slightly irregular. The tumour had a considerable range of mobility from side to side, but less in the vertical direction. The circumference of the abdomen at the umbilicus was 36½ inches. On vaginal examination a lump was felt bimanually to the left which was taken for the body of the uterus, and the sound passed into this lump a distance of three inches. I was not sure whether the tumour was a large subperitoneal fibroid or an ovarian tumour.

Operation was performed on August 3rd, 1899. On opening the abdomen the tumour was found to be a large subperitoneal fibroid of the uterus attached to the uterus by a pedicle as thick as the wrist. A loop of intestine some eight inches long was festooned across the front of the tumour and was adherent to it by broad membranous adhesions containing large vessels. In commencing to separate and tie these the surface of the tumour from which

the adhesions were detached bled so freely that it was necessary to put an elastic ligature tightly round the pedicle of the tumour. This controlled the bleeding. After separating all the adhesions peritoneal flaps were made from about two inches above the elastic ligature and the tumour (which weighed five pounds and six ounces) was then cut away. On loosening the elastic ligature the cut surface bled freely, but this was stopped by successive silk sutures passed rather deeply and tied as tightly as possible. The flaps of peritoneum were then sewn over the stump. The left Fallopian tube formed a hydrosalpinx and it was accordingly removed. The right uterine appendages were also removed with a view to check the development of other small fibroids. The body of the uterus in this case was not removed. A Keith's drainage-tube was inserted and the rest of the abdomen was closed in the usual way. The patient did perfectly well. Some months after leaving the hospital she came up again to tell us that she continued quite well.

CASE 9. *Uterus enlarged by fibroids forming a tumour rising to two inches above the navel; portion of the tumour firmly fixed by adhesions in Douglas's pouch bulging down the posterior vaginal wall; abdominal hysterectomy with intra-peritoneal treatment of the stump; good recovery.*—A single woman, aged 29 years, was admitted into the London Hospital on August 8th, 1899. The patient was sent to me by my colleague, Dr. G. Schorstein. The patient was a Russian Jewess and could speak very little English, so that the history was obtained with some difficulty through an interpreter. She seemed to have had pain in the lower abdomen more or less for three years. The periods had lasted eight days and during the first three days she had lost a great deal of blood. Her pain was much worse during the period. There had been no intermenstrual loss. I believe the obvious enlargement of the abdomen was one cause of considerable concern to the patient.

On examination a firm, rounded, irregular tumour was felt occupying the lower part of the abdomen and reaching to three fingers' breadth above the umbilicus; it extended outwards some four inches from the middle line on each side. The tumour was fairly moveable from side to side but not vertically. Vaginal examination had to be made under anæsthesia as the hymen was perfect and did not admit the finger without tearing. The os uteri was very high up, about half an inch above the pubes and to the right; it could only be felt by pressing down the tumour. A hard convex portion of the tumour lay in the posterior fornix bulging down the posterior vaginal wall to within one and a half inches of the vaginal orifice. This mass, which evidently formed part of the abdominal tumour, was practically fixed. The sound could only be passed three inches.

Operation was performed on August 18th, 1899. A large incision was made, which extended some three inches above the umbilicus. A large tumour was found in the fundus and posterior wall of the uterus extending well out to the sides, so as to leave very little room for manipulation. There was a second tumour almost distinct from the first growing from the posterior wall of the uterus and lying in the pelvis to which it was firmly adherent. This was the mass that had been felt lying in the posterior fornix on vaginal examination. There was also on the right side an ovarian tumour of the size of a goose's egg. On the left side the ovary was larger than normal and slightly cystic. With great difficulty the upper part of the broad ligament was secured and divided on each side; a peritoneal flap was reflected from the anterior wall of the uterus and the uterine arteries were tied. Owing to the tumour described as growing from the lower part of the posterior wall of the uterus being firmly adherent in the pelvis no posterior flap of peritoneum could be made in this case. The tumour in question was freed from its adhesions, leaving a rather extensive raw surface in the neighbourhood of Douglas's pouch. It was not till after this step of the operation that the uterus could be drawn out of the wound. The uterus and fibroid tumour were removed at the level of the internal os. Both uterine appendages were removed with the tumour. The stump was covered as well as possible with the anterior flap of peritoneum, which had been cut long. A Keith's tube was inserted and the rest of the wound, which measured seven inches in length, was closed as usual. The patient made a very good recovery and left the hospital on Sept. 19th. I have seen her once some months afterwards and she was then quite well.

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ON THE RESTORATION OF COORDINATED MOVEMENTS AFTER NERVE-SECTION.[1]

BY ROBERT KENNEDY, M.A., D.Sc., M.D. GLASG.

IT is now well known that after reunion of a divided nerve by means of suture function may return sooner or later, and that not only does this restoration of function imply simple return of sensation and of the capacity of making voluntary movements, but the re-establishment of complete localisation of sensation and of coördination of movements. When it is remembered that the individual nerve-fibres are supposed to be paths between well-defined centres and peripheral endings it is clear that so perfect a restoration of function is in many respects remarkable. Thus in coapting a divided nerve it is not likely that this can be effected with so great accuracy that the corresponding ends of the divided nerve-fibres can be brought into apposition. It is more likely that in coapting the nerve most of the ends of the nerve-fibres which are brought into contact are ends which do not correspond; and thus it would be expected that in the reunited nerve new paths for the nervous impulses would be established. And yet, despite this complexity of structure and of function, the reunited nerve seems to be as capable as before the division of subserving its functions. In suturing divided nerves, care is usually given to secure that the two segments are approximated as nearly as possible in their old relationship. Thus the perfect recovery of localised and coördinated function might be due to a majority of the fibres being thus placed in a position for union of corresponding ends to take place.

To investigate this subject, three experiments were performed on dogs, the sciatic nerve being chosen. In two experiments the peripheral segment, before reunion by means of suture, was twisted so as to bring the maximum number of non-corresponding nerve-fibre ends into juxtaposition, while in the third experiment reunion was made as accurately in the old position as possible. The object of this was to ascertain (1) if the time taken for the first evidence of recovery of coördinated movements and the course of development of the same were identical or different in the two cases; and (2) if the resulting cicatricial nerve segments showed microscopically any important differences in the arrangement of the nerve-fibres. In all three experiments, the animal being anæsthetised, the sciatic nerve was divided at the level of the trochanter; but in the first two, before coapting the two ends by suture, the peripheral segment was rotated to the extent of a semicircle. Thus, on coaptation, the fibres of one side of the central segment were brought into apposition with fibres with which formerly they did not connect—i.e., the fibres of the opposite side of the nerve. In the third experiment the nerve was divided at the same point and accurate coaptation in the old relationship was effected by suture. The following is the course which the experiments exhibited with reference to recovery of function.

EXPERIMENT 1. *Division of the sciatic nerve at the level of the trochanter; rotation of the peripheral segment to the extent of a semicircle and suture.*—Until the seventh day after the operation the animal showed no sign of returning function. It walked on the limb which was supported by plaster-of-Paris bandages. The paw was left unsupported for examination purposes and until the seventh day while the animal walked on the limb the paw was dragged along the ground with the dorsal surface down. But on the seventh day the paw was first used normally in walking, the plantar surface being placed correctly on the ground. This was taken as evidence of returning coördinated movements. Frequently while walking the paw turned over and the animal rested on the dorsal surface, but on these occasions the normal position was voluntarily regained after a step or two. Restoration of localised sensation could not be ascertained, but undoubted evidence of sensation was obtained on the tenth day. On the fourteenth day the supporting plaster-of-Paris splint was removed and the wound was found to be

[1] The research is published *in extenso* in the Transactions of the Royal Society of Edinburgh, vol. xxxix., No. 27, 1899, and was communicated by Professor McKendrick.

healed. The animal then used the leg perfectly, almost always placing the plantar surface of the paw on the ground correctly. By the nineteenth day the dog had practically completely recovered from the effects of the operation. On the fifty-fourth day the nerve was again exposed and was found to be united in the position in which it had been sutured. Stimulation above, below, and on the seat of reunion gave the normal contractions in the muscles of the leg.

EXPERIMENT 2. *Division of the sciatic nerve at the level of the trochanter; rotation of the peripheral segment to the extent of a semicircle and suture.*—In a few days the animal was walking about on its splinted leg, but dragging the paw along the ground with the dorsal surface down. On the seventh day it was first noticed that the plantar surface of the paw was correctly placed and, although occasionally turning over on the dorsal surface, it was on these occasions voluntarily replaced in position after two or three steps. By the twenty-first day distinct evidence of sensation was exhibited and the recovery of the normal use of the limb was practically complete. The physiological examination of the nerve on the thirtieth day showed it to be united in the position in which it was sutured and to have regained its normal irritability and conductivity.

EXPERIMENT 3. *Division of the sciatic nerve at the level of the trochanter; accurate coaptation by suture in normal position.*—On the seventh day the animal first showed signs of recovery of function, as for the first time it was then noticed that it walked placing the plantar surface of the paw on the ground. It was not, however, able voluntarily to re-adjust the paw when it happened to turn over with the dorsal surface down. This power was, however, exhibited on the following day. By the eleventh day evidence of sensation was obtained and by the fourteenth day the recovery of function was complete. On the forty-ninth day the physiological examination showed that reunion of the nerve had taken place both anatomically and physiologically.

As regards recovery of function, therefore, these three experiments followed a practically identical course. The microscopic examination of the three sciatic nerves showed the following characters. The central segments showed the characters of the normal sciatic nerve, except in so far that the lymphatic spaces were somewhat distended, thus accounting for the increased thickness of the nerve which was macroscopically evident. This character was maintained to within five millimetres of the seat of section. The peripheral segments agreed in showing no old nerve-fibres in any part examined either close to the seat of reunion or in the terminal divisions of the nerve. In their place were abundant young nerve-fibres with well-defined characters. Lying between the young nerve-fibres were degenerated remains of the old fibres, showing that Wallerian degeneration had taken place. The cicatricial segments were also all three practically identical in structure. In no case could continuity of nerve-fibres from the central to the peripheral segment be traced in a single section. The arrangement of the ycung fibres was very irregular, the fibres running a very tortuous course and showing, therefore, in the section cut in all directions. The sections closely resembled the appearance of a neuroma. The microscopic appearances of the seat of reunion leave it, therefore, doubtful whether the restoration of function in the two first cases was due to the re-establishment of the old paths for the nervous impulses by decussation in the cicatrix, or to the production of new paths by connexion made between non-corresponding ends of nerve-fibres.

The conclusions from the physiological and histological results of the experiments are: 1. That after section and immediate coaptation of a nerve, restoration of conductivity and of voluntary function may be effected in a few days. 2. That this early restoration of conductivity need not be the result of reunion of the old nerve-fibres—i.e., reunion by so-called first intention, or without Wallerian degeneration, but may be the result of regeneration of young nerve-fibres in the peripheral segment. 3. That voluntary coördinated movements are regained equally soon, whether the two ends of the divided nerve are united as accurately as possible, so as to bring the corresponding ends of the nerve-fibres into contact as nearly as possible, or whether previously to reunion the peripheral segment is twisted so that when united to the central segment non corresponding ends of the nerve-fibres are brought into contact. 4. That in the latter case the microscopic examination of the seat of reunion leaves it doubtful whether the restoration of function is due to the re-establishment of the old paths by decussation in the nerve cicatrix or to the reunion of ends of nerve-fibres which do not correspond but which happen to be brought into apposition. 5. That in suturing a divided nerve no trouble need be taken to secure that coaptation of the two segments is effected in the old relationship, the simple approximation of the two ends, no matter in what relationship, being all that is required.

Glasgow.

A BRIEF REVIEW OF OUR KNOWLEDGE CONCERNING BACKWARD DISPLACEMENTS OF THE PELVIC ORGANS.

BY FREDERICK HOLME WIGGIN, M.D.

THE most frequent causes of displacements of the pelvic organs are injuries of the perineum occurring during childbirth and septic infection of the uterine tissues, generally due to one of three causes—namely, abortion, gonorrhœa, or the intra-uterine use of unsterilised instruments. Could these etiological factors be done away with—and in time let us at least hope that they will be, for all of them are either preventable or amenable to proper methods of treatment—there would be little left for the gynæcologist to do, and womankind, to say nothing of mankind, would be not only benefited but made happier thereby. As anterior uterine displacements are seldom pathological we will pass them by and come at once to backward displacements of the organ. These may be congenital or they may occur during early life as a result of an improper mode of life, of the use of improper clothing, of falls, blows, the lifting of heavy weights, and, I believe, more frequently still from neglect to empty the bladder at proper intervals of time, the over-distension of this viscus tending to push the uterine body backward. In married women the trouble is chiefly due to injuries of the perineum and inflammatory disorders of the uterus, tubes, and ovaries. Retroflexion of the uterus occurs generally after the occurrence of septic infection following an abortion or childbirth, and is frequently due to the fact that the convalescence following these conditions is not sufficiently prolonged.

The symptoms which patients complain of who are suffering from backward uterine displacements are backache, more or less severe, referred to the upper portion of the sacrum, a feeling of weight extending down to the thighs, general bodily weakness, inability to stand long or walk far, pain at the top of the head and in the ovarian region, dysmenorrhœa, leucorrhœa, and frequently menorrhagia.

The diagnosis must of course be finally made by means of a bimanual vaginal or rectal examination, with the patient in the dorsal position, the patient having first been requested to empty her bladder. When the finger is introduced into the vagina if this condition exists the cervix will be found to point either towards the symphysis pubis or to lie parallel to the long axis of the vagina instead of being at right angles to it, as it should. Often more useful information about the pelvic organs can be obtained by means of a rectal examination than by a vaginal one, and in unmarried women it should always be first made.

The treatment of backward uterine displacements may be either by the use of mechanical supports or by operative means. The former method of treatment is less often used than it formerly was, as it is palliative rather than curative. It is indicated only in those cases where the condition is due to relaxation of the tissue and ligaments, or where operative measures are contra-indicated or declined. It should not be used in any case where there is a laceration of the cervix or any inflammatory disease, past or present, of the uterus and its appendages, or where there is a prolapse of one or both ovaries. If it is determined to adopt this line of treatment the patient should be placed in the knee-chest position, the posterior vaginal wall retracted, and the cervix exposed by means of a Sims speculum. The cervix is next—after having been washed off with a mercuric chloride solution of 1 in 4000—grasped by a double tenaculum forceps and drawn down. The fundus is next pushed towards its proper position by means of uterine dressing forceps in the jaws of which a piece of cotton is held. The organ having been returned as nearly as possible to its proper position should be retained there by means

of pledgets of cotton, wet with a boroglyceride solution, packed into the posterior vaginal fornix, and other pieces placed anteriorly to the cervix. This packing should be removed on the following day and a douche given, the patient lying on her back. The procedure just described is then to be repeated daily for several days, when the uterus can generally be retained in position by means of a hard rubber pessary. While this instrument is being worn the patient should take a daily douche in the dorsal position and she should be under the observation of her physician. If the instrument causes discomfort or pain it should be at once removed, as these symptoms indicate that the instrument is not adapted to the patient, or that she should not be treated in this manner. After the instrument has been worn for three or four months it should be removed, and the patient should be examined at short intervals of time to see whether the uterus remains in its proper position or not. If the displacement soon recurs the pessary must be at once replaced and the patient informed that she will either be obliged to wear the instrument permanently or submit to operation.

Of the surgical procedures devised to rectify backward uterine displacements giving rise to symptoms the best in my opinion is that which was first described by Mackenrodt of Berlin, and which was known by the name of "uterine vagino-fixation." The simplicity of its technique, the safety, ease, and rapidity with which it can be performed, as well as the good results obtained, make it a valuable means of relief for these patients. Before the operation is performed the uterus should be replaced, as already described, and the patient should be kept in bed for several weeks, her bowels meanwhile being thoroughly unloaded by means of small doses of cathartic medicines and high enemas of saline solution. The patient is then prepared as for a vaginal hysterectomy, and being under the influence of an anæsthetic agent is placed on the table in the dorsal position with the thighs flexed and held in place by means of a Clover crutch. The cervix is then exposed by means of a weighted speculum and is drawn forward by means of a tenaculum forceps. As in this class of cases there is more or less endometritis it is well to begin the operation by curetting the uterus with a sharp curette, gauze not being placed in the cavity. Any existing laceration of the cervix should be repaired, sutures of chromicised catgut being used. These steps having been taken, the cervix is grasped and then drawn downward and forward by the aid of a pair of bullet forceps. Then a portion of the anterior vaginal wall about three-quarters of an inch below the meatus urinarius is taken up in the same way and drawn forward and upward, thus stretching the wall. An incision is made, beginning at the last-named point and continuing to the cervix. If this wall is more or less prolapsed the incision, instead of being straight, should be oval, allowing for the removal of sufficient tissue to overcome this defect when the sutures which close the vaginal wound are placed. These flaps are dissected from the inferior surface of the bladder, into which a sound is passed and by its aid the thickness of the bladder-wall is estimated and its lower border defined. A needle threaded with pedicle silk is passed through the inferior edge of either flap and tied, the ends being kept long. These serve as retractors, and the flaps being held aside a curved transverse incision is made at the cervico-vesical junction. The bladder is freely separated from the uterus by blunt dissection with the finger, the vesico-uterine fold of the peritoneum being divided by the aid of scissors. The patient's hips are elevated, which allows the bladder and intestines to gravitate from the uterus, the fundus of which is brought into view and is seized by a pair of bullet forceps and drawn forward. The ovaries and tubes are inspected after any existing adhesions have been broken up and if the organs on both sides are found to be diseased it is best to remove the uterus with them. If, however, the diseased condition is unilateral, the parts involved are removed and the uterus is left. A suture of chromicised catgut is next passed by means of a curved needle through the left vaginal flap, at a point slightly distant from its superior margin, then through the muscular tissue of the anterior uterine wall close to the fundus, and then through the right vaginal flap near its upper margin. A second suture is passed in the same way about one-third of an inch below the first. The uterus being well anteverted, the sutures are tied loosely. The rest of the wound in the anterior vaginal wall, after free irrigation with saline solution and the application of hydrogen dioxide if there is much oozing, is closed by means of interrupted sutures of horsehair or catgut, and the wound is sealed by painting it over with a 10 per cent. solution of iodoform in ether. A small quantity of gauze is placed in the vagina for the purpose of effecting drainage, and an antiseptic pad is applied to the vulva. The time occupied by the operation is usually 20 minutes. The patient's urine is drawn by means of a new catheter (which should preferably be a short one of glass, to which is attached a rubber tube) till it can be voided voluntarily, which is generally at the end of the third day. The vaginal gauze is removed about this time and is not replaced. A daily douche of weak bichloride solution is given, after which the iodoform solution is again painted over the wound. The vaginal sutures are removed at the end of a week or sooner if they begin to cut the tissues. The patient is retained in the horizontal position for three weeks and then is allowed to assume a sitting posture. At the end of the fourth week she is permitted to leave the bed and move about and soon thereafter to resume her ordinary duties.

The left ovary is more frequently prolapsed than the right. The condition may be of congenital origin, or it may result from a sudden strain, but its most frequent cause, when not carried down by a displacement of the uterus or of the Fallopian tube, is undoubtedly sub-involution. When the organ lies at the bottom of Douglas's pouch between the posterior vaginal wall and the rectum the patient complains of dyspareunia, and of pain when standing or walking and during and after defecation. This pain, which is referred to the inguinal region and radiates down the thighs, often lasts for several hours. The reflex disturbances which accompany this condition are marked, and all symptoms are increased during the menstrual period. The disorder is usually diagnosed without difficulty by a bimanual examination of the pelvic organs, when, if the ovary is not found in its normal place to the right or left of the uterine body, the examining finger, which should be the right or left according as the patient's right or left side is to be examined, is carried high up behind the cervix and its palmar surfaces gradually turned downward, when the organ if displaced downward can generally be easily felt and pressed against the sacrum. When this is done, if the body felt is the ovary the patient will complain of a sickening sensation, or it may be found near the vaginal outlet. Of course, it is hardly necessary to say that these examinations in order to be successful should only be made after the thorough emptying of the patient's intestinal tract. When the malposition of the organ is due to a displacement of the uterus the correction of this difficulty will generally relieve the trouble. When the prolapse is due to congestion or sub-involution the organ should be replaced by means of the knee-chest position and retained there by tampons of cotton wet with boroglyceride solution. These should be removed daily and followed by prolonged vaginal douches of hot water, the patient lying on her back during this procedure, after which the tampons are to be re-applied. While this is in doing the patient's bowels should be kept relaxed and much benefit is often derived from rest, general tonic treatment, and massage. When, however, these mild measures after a reasonable trial do not suffice operation is demanded, and oöphorectomy is often avoided by drawing the ovary back to its proper position and holding it there by means of a few stitches taken through the ovarian and broad ligaments. This procedure can be accomplished either by means of a small abdominal incision or by the one already described through the anterior vaginal wall, which I much prefer.

There are few ills, if any, that womankind is subject to, other than malignant disease, which produce greater disability and discomfort than procidentia of the uterus, accompanied as it is, in the first instance, by chronic inflammatory changes of the organ and by the displacement of both bladder and rectum, with marked interference of their functions, this often being followed by cystitis and proctitis. The condition under consideration is that of a reducible hernia through the pelvic floor and, as is well known, the most frequent cause of the difficulty is an unrepaired rupture of the perineum and inability or carelessness on the patient's part to confine herself to bed for a proper length of time after the birth of her child, thus causing a strain on the relaxed ligaments of the enlarged and heavy uterus. Therefore, it may be said that we have, first, a damaged perineum, accompanied by constipation, then a rectocele, then a cystocele, and finally the gradual

escape of the uterus from the body. The sign of the disease is a local tumour, and the chief symptoms are backache, bearing-down pains, difficult and painful micturition, and more or less inability to walk. To determine the degree of prolapse the patient is suffering from she should be examined both while standing and in the dorsal position, and should be encouraged while in the latter posture to strain or bear down, a piece of cotton being meanwhile held firmly over the anal orifice to prevent escape of fæcal matter or gas. The patient on coming under control should be placed in bed and the parts reduced and held in position by tampons previously moistened with boroglyceride solution, attention being paid to the intestinal canal and bladder. The mechanical devices for the relief of the condition are numerous. The best may be said to be Gehrung's pessary and Braun's colpeurynter, but in my opinion the treatment in a majority of instances should be in the line of restoration of the damaged parts to their normal condition. If the patient is seen before the uterus has descended very far an operation on the posterior and anterior walls, combined with curettage, may suffice, but when the prolapse is complete additional means must be employed if we would permanently retain the displaced parts in their proper place. The patient having been prepared in the usual manner and placed under the influence of an anæsthetic agent in the proper position, and the cervix exposed and drawn down, as previously described, the uterus is to be thoroughly curetted. The cervix if lacerated and indurated is to be amputated, after which the anterior vaginal wall is incised, the bladder is separated from the uterus, the peritoneal cavity is opened, and the fundus of the uterus is brought forward and attached to the anterior vaginal wall in the manner already described. The necessary portion of this wall, to correct the cystocele, should at the same time be removed. After the wound is closed the perineal injury should be repaired. For some time past I have done this by a method which consists of bringing the separated muscular structures together by means of buried sutures of kangaroo tendon, which by not passing through the mucous lining of the vagina lessen the danger of infection and hold the parts firmly together for several weeks after the wound has healed. Where the degree of prolapse of the uterus is great, I have been in the habit for several years of first opening the peritoneal cavity by means of an abdominal incision, the patient being placed in the Trendelenburg posture and after drawing the uterus up to its proper position fastening it there by means of stitches placed on either side through the broad and round ligaments, thus giving the uterus new supports on either side near the pelvic brim. After closing the abdominal wound the uterine cavity is to be dilated and the organ curetted and whatever is necessary is done to repair the damage to the anterior and posterior vaginal walls. In some cases where the patient is near the menopause and the uterine body is much enlarged it is well to amputate it near the internal os and to proceed as before. In old and feeble women good results have been obtained by me by means of the following procedure, first described by Fritsch, which can be done under local anæsthesia. The cervix is seized with a double tenaculum forceps and drawn forward and a buried suture of kangaroo tendon is carried round the vagina a little above the cervix, which is then to be pushed up. The suture, the ends of which emerge from the same opening, is then drawn tight, tied, and the ends cut off short, causing the knot to disappear from view and to be buried in the tissues. This procedure is to be repeated until six or more similar sutures are placed encircling the vagina at various points, which will result in an entire obliteration of the prolapsed tissue and of the greater portion of the calibre of the canal. The perineum is next to be repaired and the wound protected in the usual manner. At the end of three or four weeks the patient is allowed to be up.

My chief aim in this paper has been to show that displacements of the pelvic organs are largely an unnecessary ill, due to preventable causes. Mothers should be told to instruct their daughters as to the importance of a proper mode of life, of the use of proper clothing, of emptying the bladder at proper intervals, of the danger of falls and of lifting heavy weights. After parturition we should always at once examine our patients for the purpose of finding out whether or no any local damage has been done, and when any is done it should be at once repaired. We should also encourage them to "make haste slowly" during convalescence and not to resume ordinary labours till the pelvic organs and parts have had time to regain their natural size and condition. They should be advised further to return within three months after confinement in order that a careful local examination of the cervix can be made, and more care should be taken than is often done to sterilise the hands, instruments, vagina, and cervix before exploring the uterine cavity.

Women should be taught that miscarriages, abortions, and venereal disease bring their own penalty and that they are seldom as well after the occurrence of these mishaps as before; even so, much can be done to limit these troubles and lessen their after-effects by their prompt recognition and intelligent treatment.

New York.

DIPHTHERIA OF THE CONJUNCTIVA.

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IN my experience ophthalmia associated with the Klebs-Löffler bacillus is far from rare in London, although it must often escape recognition unless a routine bacteriological examination be carried out. At the North-Eastern Hospital for Children, where such an investigation is adopted in every doubtful case, we see instances of the disease pretty frequently. Mr. C. G. Burton,[1] the resident medical officer at that hospital, in the course of a recent communication to THE LANCET, calculated that of all the cases of ophthalmia taken there for treatment 2 per cent. belonged to that category. This estimate agrees with our later experience. The cases run in groups, and are more common when ordinary diphtheria is prevalent amongst the poor of East London. Children over three years of age are seldom attacked. On the other hand, the classical conjunctival diphtheria described by Graefe is practically unknown at the hospital and that seems to be the general experience throughout the country. According to figures quoted by Professor Fuchs in his monograph on "The Causes and Prevention of Blindness" diphtheria of the conjunctiva was present in 0·2 per 1000 only of 22,130 patients who were seen at the Royal London Ophthalmic Hospital in Moorfields. It may be presumed that such an estimate includes only cases so extreme that they can scarcely escape recognition. The brawny and board-like lids, the lardaceous and ecchymosed conjunctiva, the depressed patches of false membrane, the rapid destruction of the cornea, and the marked general symptoms make up a clinical picture that once seen cannot be readily forgotten. The other cases, which have long been termed "croupous," vary much in intensity. The lids, however, can be everted and the false membrane detached without much difficulty, the cornea may or may not suffer, and general symptoms are more often absent than present. The disease presents a close resemblance to a common diphtheritic affection of children, viz., fibrinous rhinitis, where constitutional symptoms are practically unknown, although the nares may be the seat of false membranes teeming with diphtheria organisms.

It would therefore appear that croupous conjunctivitis bears much the same relation to diphtherial conjunctivitis as fibrinous rhinitis does to nasal diphtheria. Indeed, even before the advent of the bacteriological era it was conjectured by acute observers that the two forms of ophthalmia mentioned above were at root one and the same disorder—viz., diphtheritic inflammations of mild and of severe type. Faucial diphtheria was known to have been contracted from so-called croupous ophthalmia. Cases of that kind have been cited by Schirmer and by Haab. The mere existence of a membranous exudation on the conjunctiva is in itself no evidence of a diphtheritic process, but the presence of such a product should at once suggest a bacteriological examination. As I have pointed out elsewhere[2] the finding of the Klebs-Löffler bacillus is the only certain way of recognising the disorder, and in my opinion a diagnosis of conjunctival diphtheria should never be made in the absence of such evidence.

It follows from what has been said that the existing

[1] THE LANCET, Jan. 28th, 1899, p. 227.
[2] Brit. Med. Jour., June 18th, 1898.

terminology is not in touch with the ascertained facts. It would be preferable to put aside the ambiguous term "croupous" and to classify cases into mild or severe, or even to adopt the anatomical basis of certain continental writers who recognise (1) the interstitial cases, (2) the superficial membranous cases, and (3) the catarrhal cases. Since it has been shown that diphtheria of the conjunctiva need not of necessity coincide with a membranous exudation, there is good ground for belief in the existence of the so-called "catarrhal" cases. The remaining forms of conjunctivitis with membrane would naturally be classed with reference to the micro-organisms present, such as the pneumococcus, &c.

Our practice with regard to treatment is to inject an adequate dose of antitoxin if we suspect diphtheria, without losing valuable time by awaiting the results of a bacteriological investigation. We do not hesitate to allow the patient to be taken home after the injection, but should the specific microbe be subsequently found, we detain the child in the diphtheria ward until cured. As to local means we generally employ a strong solution (15 per cent.) of potassium permanganate to paint over the exposed conjunctiva once a day and a weak antiseptic lotion, such as corrosive sublimate 1 in 5000, for cleansing the mucous membrane at frequent intervals. Should the cornea be involved atropine drops (two grains to the ounce) are used from three to six times a day.

The following case, besides presenting one or two points of special interest, is fairly typical of the milder type of conjunctival diphtheria.

A boy, aged two and a half years, was brought to the eye department of the North-Eastern Hospital for Children on Sept. 28th, 1899, with the statement that his left eye had been inflamed since the 23rd. He was well nourished and did not look particularly ill. The lids of the left eye were markedly swollen and of a violaceous hue, and there was abundant muco-purulent discharge from the palpebral fissure. On everting the palpebræ (which could be done without much difficulty) a membrane was observed on the conjunctiva, upper and lower. Although thicker upon the lower lid than elsewhere it could be easily peeled away. The swollen ocular conjunctiva was free from false membrane. The cornea was cloudy without actual ulceration. The scalp showed several impetiginous areas, one of which had been freed from scab at home and was covered, when examined at the hospital, with an adherent grey membrane. A serous discharge was present from the nostrils, but no signs of diphtheria could be made out either there or in the throat. The pre-auricular and angular glands were enlarged. Albumin was present in the urine. The temperature was 98° F., the pulse was 104, and the respirations were 24.

The child was admitted to the diphtheria ward, and 2000 units of the Royal Colleges of Surgeons and Physicians' antitoxin were injected. The conjunctiva was painted thrice a day with potassium permanganate (15 per cent.) and the eyes were kept clean with a saturated aqueous solution of boric acid. The scalp was treated with ammoniated mercury ointment (five grains to the ounce). Cover-glasses were smeared with particles of false membrane, which was also rubbed over the surface of blood-serum and agar-agar slants. The film-preparations, when stained and examined with the microscope, showed many long bacilli, often curved and grouped side by side. They stained with Gram's method. They seemed to be the specific organism of diphtheria. On the media, after incubation for 24 hours, fine cultures were obtained not only of Klebs-Löffler bacillus but also of staphylococcus albus and staphylococcus aureus. Further cultivations were made from the membranous patch on the scalp and staphylococci and (?) diphtheria bacilli obtained. On Oct. 6th it was found that the corneal haze which was present on admission had given way during the previous four days to a circular ulcer of that structure. Atropine drops (½ per cent.) were prescribed thrice a day. On the 11th the membrane was absent from the red and thickened conjunctiva. The ulcer on the cornea was neither infiltrated nor were its edges undermined. The patch of diphtheria on the scalp had healed. On the 20th the palpebral conjunctiva, although congested, was not markedly affected. There was a slight discharge from the eye. The corneal ulcer had healed with the production of a nebula. The child was discharged on the 20th, after a stay in the hospital of 22 days. For the greater part of that time the temperature remained about normal, but a slight rise took place on the seventeenth day, probably as the result of the injection of antitoxin.

Welbeck-street, W.

A SUCCESSFUL CASE OF CŒLIOTOMY FOR INTESTINAL OBSTRUCTION DUE TO PERSISTENT MECKEL'S DIVERTICULUM.[1]

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THE case which I am about to describe seems to me to be of special interest for two reasons: first, the onset of the disease was quite unlike that of acute intestinal obstruction, and, secondly, the way in which the diverticulum caused obstruction was an unusual one.

The patient was a girl, nine years of age, and was sent to me by Mr. F. E. Peake. The illness began without complaint of any abdominal pain. On July 31st, 1899, the child began to suffer from headache and vomiting, and she was kept in bed. On the following day, although the vomiting persisted, she was up and about. It was not until August 2nd—the third day of her illness—that abdominal pain situated in the umbilical region was first complained of. The patient continued to vomit frequently and got much worse on the 4th, and when seen by me on admission to the hospital at 3 P.M. on the 5th she was obviously very ill with a distended abdomen and dry, brown tongue. The pulse, however, was only 100, and the temperature was between 99° and 100° F. She cried out every now and again with pain in the abdomen but did not vomit at that time. Three visible coils could be seen in the distended tympanitic abdomen, but they did not contract or dilate with peristalsis. There was some general tenderness but the abdominal walls were not rigid. There had been no passage of blood or mucus from the bowel. No reliable information could be obtained as to when the bowels had acted last or as to the passage of flatus. There was a history that 18 months before she had had an attack of abdominal pain and vomiting lasting for two days but she had not been laid up by it.

The onset of the illness was certainly not like that of acute intestinal obstruction. It was more suggestive of an attack of appendicitis, but the general distension of the abdomen and the evidently serious condition of the child were such that one could not help suspecting that if the disease had begun as a localised appendicitis it had, at any rate at the time of her admission to the hospital, become complicated with a general peritonitis; and yet the abdominal wall was not so rigid as it is usually found in a condition of general peritonitis, nor is visible distension of a few separate coils seen, as a rule, in such a condition. But these coils were not observed to harden from peristalsis, as they so often do in mechanical obstruction. If I had observed this condition in the distended coils I should have felt sure that it was not paralytic distension from peritonitis but some form of mechanical obstruction. The temperature is, I think, of little guide in such cases. It may not be raised at all in the severest forms of septic peritonitis, and, as in this case, may be slightly raised in mechanical obstruction. Whatever the exact condition might be, however, it was clear that there was an acute abdominal condition which demanded immediate operation, and at 5.30 P.M. on the day of admission I operated. On opening the abdomen a considerable quantity of clear serous fluid poured out of the pelvis. A large extent of the small intestine was found to be considerably distended, but some empty coils were at once discovered, and on tracing one of them it was found to pass within a ring of what felt like bowel, and when drawing this to the surface by traction on the empty coil the latter slipped out of the constriction together with a distended portion of bowel, and between the two was seen the groove of constriction. After the liberation of the strangulated bowel it was found that the constricting ring into which the bowel had slipped was formed by a persistent Meckel's diverticulum. The bowel had been strangulated beneath the diverticulum which passed from the ileum at the usual spot to the umbilicus.

Mr. Treves,[2] who has fully investigated the various forms

[1] A paper read before a meeting of the Bristol Medico-Chirurgical Society on Dec. 13th, 1899.

[2] Intestinal Obstruction, 1899, p. 47.

n which the diverticulum persists and the mode in which it causes strangulation, says that it is difficult to understand how the bowel can be strangulated under the diverticulum when it extends from the ileum to the umbilicus, and that in nearly all cases in which the strangulation has occurred beneath the diverticulum it has been adherent to some structure other than the umbilicus, usually the mesentery; and he suggests that when the bowel has been said to be strangulated beneath the diverticulum, passing from the ileum to the umbilicus, the condition has probably been one of volvulus in a coil caught under the diverticulum. Therefore, it is interesting that in this case the strangulation did take place beneath a diverticulum passing from the ileum to the umbilicus, and that the groove of constriction on the bowel showed that the obstruction had been caused by strangulation and not by volvulus. I cannot deny that a loop in the diverticulum may possibly have snared the gut and that in drawing out the constricted bowel I may have destroyed the loop. All I can say is that I saw no evidence of such a loop and I think that had there been one I should have observed it.

I excised the diverticulum. It began as a funnel-shaped projection from the ileum of an inch and a half in length and terminated in a round cord attached to the umbilicus. Before excision I applied a clamp to the diverticulum at its attachment to the duodenum, for it had a diameter here of three-quarters of an inch, and then united the margin with Czerny-Lembert sutures. The umbilical end I simply ligated before division. The region of the peritoneal cavity in which the stump of the diverticulum lay was drained for a few days to guard against any risk of peritonitis from leakage, which did not, however, occur. The child made an uneventful recovery.

Clifton, Bristol.

A HEPATIC MUCOID CYST.

BY W. CAMPBELL M'DONNELL, M.R.C.S. ENG., L.R.C.P. LOND.

THE following case seems to be worthy of record by reason of the rarity of hepatic single cysts, not hydatid. The patient was a man, aged 53 years, giving a history of severe, sudden, recurrent epigastric pain extending over several years, and I saw him in what was apparently one of these attacks. Tenderness of the whole abdomen developed with pyrexia and the pain increased till death. At the post-mortem examination there was general purulent peritonitis resulting from an old ulcer situated at the pyloric under-surface of the stomach, adherent to the pancreas. Some gastric contents had extravasated and set up the peritonitis. Mr. C. H. Jackman kindly saw the patient with me, and it is owing to his courtesy that I am able to reproduce the appearances of the microscopical section shown below.

On the mid-upper surface of the liver there was a spherical tumour, 9·5 centimetres in diameter, firmly adherent to the diaphragm, less adherent to the inferior vena cava, removeable from the liver without tearing the cyst but exposing an irregular liver surface similar to that of a kidney markedly affected by chronic Bright's disease. There was no renal cyst. The cyst wall was smooth, tough, fibrous, white on section, and 1·5 millimetres thick. The main bulk of the cyst was a firm, pale apple-green jelly, of specific gravity 1029, which was found to be mucin. Through the mucin were sparsely scattered red, brown, or yellow seed-like bodies which in some instances were accumulations of hæmin crystals; in others small masses of shrivelled red blood cells with a few hæmin crystals cemented together by a bright yellow mucin. At one spot there was a small opening in the interior of the cyst wall connected indirectly with a dilated vein of the exterior cyst wall by a long oblique piercing of the wall. At that place there was seen a layer of old blood and of dark seed-like bodies in their greatest accumulations. The mucin had in it many tufts and clusters of tyrosin and a large number of variously-sized cholesterin plates; it contained a small amount of albumin and was devoid of cells; it did not give Pettenkoffer's bile acid reaction or the iodine colour reaction of bile pigments. A solution of the jelly in strong nitric acid reduced Fehling's solution very readily. From the slowly evaporated solution and re-solution of the residual paste in distilled water chlorides and sulphates were precipitated, the former in large, the latter in much less, quantity; from this solution urea was prepared in crystals. The insoluble deposit was found to consist of calcium oxalate in crystals of large and small octahedrals. Sections of the underlying liver presented no macroscopic abnormality; microscopic specimens taken some three weeks after standing in glycerine formalin showed vacuolation of the hepatic cells beginning in the nucleus, thought by Mr. S. G. Shattock, who kindly examined the microscopic section, not to be merely a post-mortem change; there was also some small cell infiltration of the connective tissue. The vacuoles were not seen anywhere to form microscopic cysts by coalescing. There was therefore a wide difference between this cyst and the multiple cysts of the liver with vacuolation of the hepatic cells described by Eugéne Courbis and others in this particular, as also in the appearance and composition of the contents of the cyst.

Illustration showing a field of a transverse section of the liver closely underlying the cyst. It shows some of the vacuoles formed in the hepatic cells.

Park-lane, Stoke Newington, N.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

NORTHAMPTON GENERAL INFIRMARY.

A CASE OF ADDISON'S DISEASE WITH ASSOCIATED LEUCODERMA AND TUBERCULOUS PERITONITIS.

(Under the care of Dr. F. BUSZARD.)

THERE are probably several distinct morbid conditions which agree in being characterised by the formation of whitish patches on the skin, though the same name, "leucoderma," is applied to them all. The alterations in pigmentation in Addison's disease chiefly take the form of marked increase in depth of colour in certain situations, but occasionally, as in the very interesting case recorded below, patches of paler skin appear. These may reasonably be called cases of leucoderma in spite of the association with Addison's disease. Our knowledge of the mechanism by which disease of the supra-renal capsules may lead to alterations in the pigmentation of the skin is at present very indefinite, but it is not improbable that an increase of our knowledge in this direction may assist us in the pathology of true leucoderma. For the notes of the case we are indebted to Dr. Horace Colman, late assistant house surgeon.

A man, aged 40 years, was admitted into the Northampton General Infirmary on August 20th, 1898. He complained of general weakness of some long standing and of changes in

his skin during the past three or four months. He could assign no definite date for the onset of his symptoms and nothing could be elicited from him that might be supposed to have anything to do with the onset. The weakness had increased of late and owing to his being too feeble to work he had not been getting sufficient food.

In appearance the patient was a very thin man of about the average height; his weight was only 8st. 3lb. He looked extremely ill and was very feeble indeed. The most striking feature was the pigmentation of the skin. Generally the skin presented a dirty-brown "unwashed" appearance which the patient said was of one or two years' standing. On the mucous membrane of his lips were deeply pigmented patches, but there were none inside the mouth, and there was no excessive pigmentation in the axilla or on the nipples or genitals—that is to say, there was no change in the proportion between those parts and the surrounding skin. In contrast to the general darkening of the skin there were patches of pure white. These were situated on the side of the nose, one cheek, and upper lip (the hair in the patches on the upper lip was perfectly white). Patches were also seen on the front of the knees and the abdomen. The palms of the hands were of a fresh, clean, white colour, as were the dorsal surfaces of the last two digits. On the dorsum of each hand there were irregular patches as well. (The patient had been a stableman and groom when able to work, so that there does not seem to be any probability of his occupation having any particular bearing on the state of his hands.) The margins of the various patches were even more deeply pigmented than the surrounding skin, the appearance suggesting that the pigment had been carried out and heaped up peripherally, and the manner in which the patches increased seemed to confirm this suggestion. Physical examination revealed nothing further except an exceedingly weak pulse, small and rapid. The heart sounds were very faint. The temperature occasionally rose to 99° F. at night, but was subnormal during the day. The urine was alkaline, the specific gravity being 1010; there was no albumin or deposit, but on heating phosphates were precipitated.

While in the infirmary the patient improved for the first few days, doubtless owing to good food and complete rest. Soon, however, the weakness gradually increased and he was troubled with diarrhœa that could only be partially checked by the use of opium. For the last few days of his life he suffered from constant and uncontrollable vomiting which continued in spite of rectal feeding. 14 days after admission he died. During that fortnight a marked increase was noticed in the size of the white patches. This was very obvious on his upper lip, where almost the whole of his moustache had become perfectly white. The treatment consisted at first of a tonic of iron and strychnine, then it was directed to stopping the diarrhœa, and just before the vomiting started he was given suprarenal tabloids but he only took two or three.

Necropsy.—A post-mortem examination was made by Dr. Colman on the following day. The lungs were found to be healthy except that the right one was completely adherent to the chest wall and to the diaphragm. The heart was very small; the valves were healthy, and the muscle appeared so to the naked eye. The whole of the peritoneum was studded with fine tubercles varying in size from that of a pin's head to that of a hemp-seed. These were also present on the surface of the liver, spleen, bladder, and small intestine, but not on the large intestine or stomach. There was some enlargement of the retro-peritoneal glands, but there was no sign of ulceration of the intestines. The liver, spleen, and pancreas appeared to be healthy. The left kidney was healthy, but the right had several small cold abscesses in it. These were unconnected with one another and without any communication with the pelvis of the kidney or the surface. The suprarenal capsules were very extensively destroyed by tuberculous disease. The left was small and almost entirely caseous. The right was not quite so extensively diseased and contained one or two nodules of firm and apparently healthy tissue. In order that there should be no doubt as to the nature of the destruction Dr. Colman submitted the capsules to Dr. H. D. Rolleston of St. George's Hospital, who very kindly undertook to examine them. He pronounced them both to be extensively destroyed and infiltrated by fibro-caseous tubercle.

Remarks by Dr. COLMAN.—The interest of this case lies in the association of leucoderma with the excessive pigmentation of Addison's disease and, as revealed by the necropsy, the tuberculous lesions of the peritoneum and kidney. The leucoderma increased rapidly while the patient was in the infirmary and seemed undoubtedly to result from some change in the nutrition and innervation of the skin which carried the pigment (previously in excess) from localised areas and heaped it up all round; the change in size and shape of the patches could be noticed from day to day. Another point was that the areas normally pigmented did not show any increase out of proportion to that occurring to the skin generally. The small heart was expected in the light of the small and weak pulse and the faintness of the heart sounds. The smallness was really astonishing and I much regret that when making the post-mortem examination I had no means of making careful measurements of the organ, but a heart of a child of 14 years of age would about represent it. The tuberculous peritonitis gave rise to no symptoms unless it added to the general weakness and increased the diarrhœa. The abscesses in the right kidney were evidently not caused by direct spreading from the suprarenal capsule as there was healthy tissue between. It is probably impossible to make a definite statement of the order of infection but the disease was most marked in the capsules and least advanced in the peritoneum, and in an intermediate stage in the right kidney.

About the same time there was in the infirmary another case of Addison's disease. This case was fatal too, but in spite of all my endeavours I was unable to gain permission to make a post-mortem examination. The chief point of interest in this case was the long duration and the sudden termination. Three years before admission the patient began to feel weak and faint at his work and at the same time was troubled with causeless vomiting. The onset was rather sudden, but he knew of nothing to which it might be attributed. He had no pain in the back and no diarrhœa. Two years before admission a change in the colour of his skin was noticed which had gradually become darker. He had been unable to work for some weeks, but he walked up to the infirmary and walked upstairs with apparently little fatigue. His skin was of a dusky hue all over and the nipples were very dark. On the palate there was a dark, purplish patch of about the size of a sixpence. The pulse was full and soft. Two days after admission, on rising to go to stool, he fainted and collapsed on to the next bed. Nine days after admission I took some notes on the history. After about half an hour or so he seemed very tired and vomited; though no examination had been made and he lay on his back all the time. He took his tea soon after, but half an hour after that his heart suddenly failed and he died within five minutes of the first alarm.

I am indebted to Dr. Buszard for permission to publish the above case.

CUMBERLAND INFIRMARY.

TWO CASES OF INTUSSUSCEPTION; OPERATION; RECOVERY.

(Under the care of Dr. H. A. LEDIARD.)

THE trend of surgical opinion of recent years as to the treatment of acute intussusception has been very distinctly in the direction of primary laparatomy, that is to say, laparotomy which has not been preceded by ineffectual attempts to reduce the intussuscepted bowel by injection or inflation. This change in treatment is amply supported by statistics. For instance, in the Transactions of the Clinical Society of London[1] Mr. A. E. Barker records 15 cases in which he did laparotomy and nine of these recovered. If only the large intestine be involved, as in the first case recorded below, the symptoms are less acute, but in any case the earlier the operation is performed the greater the chance of success, and the operation should be carried out as rapidly as possible. Dr. Lediard is to be congratulated on his satisfactory results. For the notes of these interesting cases we are indebted to Dr. Cairns, late house surgeon.

CASE 1.—A boy, aged two years and five months, was admitted into the Cumberland Infirmary on the forenoon of Nov. 1st, 1899. The illness commenced with slight vomiting

[1] Vol. xxxi., p. 65.

on Oct. 29th. On the 30th the vomiting was more severe and was accompanied by diarrhœa and the passage of bloody mucus. As the child became steadily worse and was evidently suffering great pain Dr. J. W. Crerar of Maryport was called in on the evening of the 31st. He diagnosed intussusception and, all attempts at reduction failing, advised immediate operation. On admission the boy was well under the influence of opium and his general condition was remarkably good considering that this was the fourth day of the illness. The temperature was normal, the pulse was 110, and the respirations were 30 per minute. On abdominal examination an elongated mass, apparently about five inches long, could be felt lying obliquely in the left iliac fossa and extending upwards well above the brim of the pelvis. The liver dulness was diminished, and there was some general abdominal distension, but no evidence of fluid was present. On rectal examination the lower end of the mass could just be felt above the brim of the pelvis. Attempts at reduction by enemata, inflation, &c., all proved unsuccessful, and at 4.30 P.M. on Nov. 1st (i.e., almost exactly four days from the appearance of the first symptoms), laparotomy was performed by Dr. Lediard. An incision about four inches long was made over the tumour and the peritoneum was opened with the usual precautions; the intussusception was readily found and proved to be colon into colon, forming a large elongated mass nearly seven inches long. The bowel was extremely congested, but not gangrenous, and the intussusception was reduced only by the exertion of a considerable amount of force. The peritoneum and abdominal wall were then rapidly stitched up by interrupted fishing-gut sutures and the child was put back to bed, the whole operation having occupied less than 20 minutes. He passed a restless night and became quite delirious on the following day, the temperature reaching 103·2°F. at 8 P.M.; but after several doses of a mixture containing sulphate of quinine, tincture of digitalis, and solution of hydrochlorate of morphine, he became much quieter and on the following day his temperature had fallen to normal. Flatus was passed several times during the second day after the operation, and on the third day the bowels were moved freely after an enema of soap and water. From this point recovery was practically uninterrupted and after removal of the stitches on the ninth day no further trouble was experienced.

CASE 2.—A male infant, aged six months, was admitted into the Cumberland Infirmary on the afternoon of May 18th. The illness commenced on the night of the 16th with vomiting and diarrhœa, accompanied later by the passage of blood-stained mucus. Dr. D. S. Doughty of Dalston, Cumberland, saw the patient on the afternoon of the 17th and diagnosed intussusception, but was able to reduce it by injection of air and fluid. All the symptoms then disappeared and the child became perfectly quiet, but the vomiting, &c., recommenced on the morning of the 18th, and Dr. Doughty, after again seeing the child, advised immediate operation. On admission the child looked very ill and cried almost continuously. The vomiting, diarrhœa, &c. persisted, and on examining the abdomen a large sausage-shaped mass could be felt stretching transversely across just above the umbilicus; another mass could be felt low down on the left side just above the pelvic brim, giving one the impression of two distinct intussusceptions, but nothing could be detected per rectum. As the condition had recurred after previous reduction by inflation the abdomen was immediately opened by Dr. Lediard and a very large intussusception was found. It extended from the left iliac region upwards and backwards towards the splenic flexure and then transversely across to the right side of the abdomen, being at least 10 inches long. Reduction was effected by careful and prolonged traction, and the last portion of bowel to emerge was the cæcum with the vermiform appendix—i.e., practically the whole of the large intestine had been involved. The abdominal incision was then rapidly stitched up by interrupted sutures of fishing-gut, and the child was back in bed within 20 minutes of the commencement of the operation. Vomiting continued intermittently for a few days after the operation, but disappeared on the substitution of peptonised milk for the mother's milk, and the further progress of the case was uneventful. The bowels were moved naturally on the day following the operation, the stitches were removed on the eighth day, and the child was discharged cured on June 3rd, less than three weeks from the date of the operation.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa.

A MEETING of this society was held on Feb. 13th, Mr. THOMAS BRYANT, the President, being in the chair.

Mr. SEYMOUR LUCAS, in resuming the adjourned discussion on the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa, admitted that the operation suggested would no doubt lessen the time of suppuration and prevent recurrence. In the plan suggested after the first operation was done and healed it was necessary to again open up the wound and repeat the operation. This seemed to him the only defect of the operation under consideration. Even a third operation might be necessary to remove the piece of gold leaf. It would be a great advantage if it could be done all at once. It was not so easy to get patients to submit to two operations for one result. In times gone by he had been struck with the pain suffered by children with large burns who had to supply grafts for their healing. In 1884 he had suggested the use of preputial skin, of which there was a superfluous amount. Some one had suggested that frogs' skin would serve. Might not this be utilised in the present operation? Turning to the question as to what cases it was desirable to interfere with, each case must be treated on its own merits. In cases of doubt it was a good rule to operate. The selection of cases was, no doubt, a very difficult matter. He referred to the case of a child, aged nine years, who had had otorrhœa for three months. On admission he was suffering from headache, sickness, constipation, nausea, and vomiting, and he was drowsy and stupid. There were slight ptosis on the right side and optic neuritis. The symptoms were thought to be due to cerebral abscess from otorrhœa. But eventually he died and the child was found to be suffering from meningeal and universal tuberculosis.

Dr. WILLIAM MILLIGAN remarked that the treatment of chronic suppuration of the middle ear was a subject of very great importance. As to the indications for operation those cases attended by severe pain, by facial paralysis, and by obvious external indications of mastoid disease called for operation. In some cases also in which objective symptoms were not present, and wherever there was reason to believe that deep-seated suppuration was going on—though these cases were sometimes difficult to decide—operation was called for. Chronic suppurative otorrhœa was a very grave condition. It might be followed at any moment by acute intra-cranial symptoms and death. Moreover, otorrhœa was always attended by a lowering of the general health. His own idea was that as a general rule surgical interference was delayed too long. It might be done with propriety in the subacute stage as soon as the acute symptoms had subsided. Turning to the kind of operation, Mr. Ballance's technique constituted a distinct advance. The time of after-treatment was thereby much lessened. In an ordinary Stacke's operation it took four months for complete cuticularisation and here it could be completed in three or four weeks. He did not quite understand Mr. Ballance's disposition of the cutaneous flap. He had tried grafts on the inner wall of the middle-ear, over the promontory, and such cases healed more quickly.

Mr. ARTHUR BARKER entirely concurred with the readers of the various opening papers. As regards the selection of cases the three indications given in the summary formed the limit beyond which they could not with safety go. He especially agreed with the statement that experience was a better guide than any hard-and-fast rules. This led him to the conclusion that this department of surgery was in one sense a legitimate speciality. But, on the other hand, he did not believe that Mr. Ballance would have been led to this operation had it not been for his general surgical training. He was not sure if the covering with gold-leaf was absolutely essential. Lately he had found several folds of gauze answer this purpose and it could be left *in situ* for some days.

Mr. H. SECKER WALKER remarked that he always made a very free incision at the start and then completely

removed the pillar of bone running between the antrum and the attic. It was only in this way that the operator could see what was the real state of the tympanum, and for this purpose he used a strong searchlight. He would like to ask if it was necessary to keep the ear cartilage in the flap that was turned up. He thought it best to dissect it out. He had until lately used chisels and mallet, but the burr was a great advantage.

Dr. DUNDAS GRANT remarked that the indications for the operation required careful consideration. Pain and vertigo were very strong indications for operation unless these could be otherwise explained by visible removable causes. Sometimes vertigo ceased after the removal of a granulation which was pressing on the stapes. Caries was also a decided indication unless it was limited to the outer wall attic, as also was the occurrence of facial paralysis or of nerve-deafness. And there was one more—general ill-health—which was a reason for operating which was not realised as much as it ought to be. Even a trace of albuminuria was not a contra-indication, rather the reverse. The degree of hearing power which the patient retained was an important factor. If the patient could hear a whisper at three feet distance the tympanic apparatus was still of some value. If the hearing power were below that an operation might be more readily agreed to. Persistent suppuration in spite of intra-meatal treatment was one of the strongest indications for operation. As to the temperament of the surgeon, which one of the earlier speakers had alluded to, perhaps aurists had been of a too conservative temperament and prided themselves on curing their cases without operation. He had seen several unfortunate cases of sudden supervention of meningitis and the possibility of this was always before the patient. Consequently the responsibility of deciding against the operation was greater than deciding for it. He was glad that the suggestions made by Mr. Ballance enabled them to cope with cases more readily.

Dr. WILLIAM HILL wished to ask Mr. Ballance what proportion of the cases operated on were likely to fail and whether this operation could be applied in all conditions of the hearing.

Mr. C. A. BALLANCE in reply, felt sure that his methods could be gradually improved. In all his cases the operations were done because life was in danger and because there was nothing else to be done. He did not, therefore, hesitate to give chloroform twice. He had considered preputial skin and the skin of the frog, but these did not recommend themselves to him. He had not yet found anything as satisfactory as the epithelium of the patient. He had not got as good results without gold-leaf as with it. The dissection out of the cartilage of the ear from the flap, as suggested by Mr. Walker, would certainly, he thought, be a gain and he would gladly adopt it. The cavity must, as Mr. Walker had said, be thoroughly opened up. His answer to the question whether he would operate on a patient whose hearing was good was in the negative.

Sir WILLIAM DALBY wished to add his testimony to the completeness of Mr. Ballance's operation. It had been truly said that this operation was not as easy as it seemed, requiring great delicacy of touch as well as very accurate knowledge of anatomical relations. It might be well to remember that Mr. Ballance had been operating on these cases for 15 years before he was satisfied with the details in his methods. In his portion of the paper Sir William Dalby had attempted to formulate the conditions and symptoms which led to the selection of cases for operation, and it was noticeable that in two or three of Mr. Ballance's cases in which Sir William Dalby had advised the operation he had 20 and 17 years before seen these cases and given an opinion as to the possible dangers in the future. In one of these he had opened the antrum for urgent symptoms. This was at a period when their knowledge did not permit of the operation now under discussion. There were also many cases in the past in which he had opened the mastoid cells and saved life by so doing, but which would have been far better treated if they had then known that an operation like Mr. Ballance's was possible and would once and for ever protect against risk of septicæmia and other dangers.

Mr. A. E. CUMBERBATCH remarked on the delicacy and skill required for the operation. It was not one which could be taken up lightly. That was why in his teaching he seemed more conservative than in actual practice, for so much depended on the operator.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 12th, Mr. G. R. TURNER, Vice-President, being in the chair.

Mr. F. C. WALLIS exhibited a case of Resection of the Small Intestines in a Boy, aged seven years. About two years previously he had been under treatment for tuberculous peritonitis in a London hospital, and about a year after that acute intestinal obstruction had occurred. For this the abdomen was opened and a piece of small intestine above the obstruction was sewn to the abdominal walls, opened, and a fæcal fistula resulted. The patient then went to St. Monica's home, at which place the operation of enterectomy was performed by Mr. Wallis on Dec. 1st, 1899. Five inches of small intestine were removed, and the cut ends were joined by interrupted sutures. The boy made a very satisfactory recovery in spite of the septic conditions of the skin which for a considerable area round the original wound was red, inflamed, and discharging pus, on account of the irritation and partial digestion caused by the contents of the small intestine constantly flowing over it. The pieces of resected intestine were shown.

Mr. FRANCIS JAFFREY showed a case of Urticaria Pigmentosa occurring in a male child aged 15 months. The eruption was universal and consisted of wheal-like patches, each lasting from a day to a day and a half, leaving a stain on disappearing. The patches were slightly raised and varied in size from a split pea to a shilling-piece. The eruption had been going on for about 10 months, as it first appeared when the child was five months old. Mr. Jaffrey remarked on the rarity of the condition and said that most of the recorded cases were in boys.—In reply to Dr. W. EWART Mr. Jaffrey said that the patient had not had any arsenic and that there was no alteration in the spleen.

Dr. C. W. CHAPMAN exhibited a case of Cyanosis from Birth due probably to congenital cardiac disease, though no cardiac murmur was present. The symptoms consisted of severe breathlessness and convulsive attacks in which consciousness was lost and the patient sometimes bit her tongue. There was slight clubbing of the fingers and toes. The cardiac defect probably consisted of a transposition of the great vessels and possibly the patent foramen ovale. Both the arteries and the veins of the fundi oculorum when examined by Mr. Adams Frost were much dilated.—Dr. EWART agreed with the diagnosis and suggested that possibly there was a very large opening, too large to produce a murmur. The valves were probably normal.—Sir HUGH BEEVOR commented on the very marked pulsation in the second left interspace although the dulness was diminished in that situation. There was evidently a dilated right ventricle and possibly the aorta arose on the left-hand side of the heart.

Sir HUGH BEEVOR, Bart., showed a case of Cardiac Disease with Pulsus Bisferiens. The patient was a male, aged 23 years, who had been subject to dyspnœa on exertion since an attack of chorea at the age of 11 years. Cardiac and arterial symptoms of aortic regurgitation and stenosis were present. Pulse tracings which were shown adduced confirmatory evidence. The symptoms pointed to the existence of a contracted aortic orifice but not to any great degree of narrowing. The effects of mitral incompetence had been apparent from time to time during the last two years, for the patient had had anasarca and hæmoptysis and the liver now extended just beyond the margin of the ribs.

Mr. A. J. BARKER exhibited a patient, aged four years, who suffered from Congenital Dislocation of the Hip. Nothing was noticed wrong with the child until she began to walk, and then she "waddled" in the characteristic manner. A marked feature about this case was the twisting forwards of the head of the femur. It was the rule for it to be twisted forwards in congenital dislocation, and this was well shown in the skiagram which was exhibited. As regards the prospects of operation in such cases, out of 360 cases collected by Lorenz it was only in a very small proportion that this observer had been able to bring the head into relation with the acetabulum. This was proved by the last 135 cases which were skiagraphed.—Mr. F. C. WALLIS remarked that the advantages to be derived from operation in such cases appeared to be extremely limited, and he referred to two cases of operation which were exhibited together at the Clinical Society of London, and at the same time to the case of a girl, aged

17 years, who had not been operated upon. This comparison was not in favour of operation.—Mr. J. LYNN THOMAS referred to a case upon which he had operated two years ago for double congenital dislocation. The patient was kept in a double Thomas's splint for nine months. The case did very well, but the head of the bone was on the dorsum ilii a little higher than before. Nevertheless the "waddling" had disappeared so far and this was a great advantage.—Mr. BARKER, in reply, did not at all wish to advocate the operations which had hitherto been done, for the results were not at all encouraging. There was in his experience not much gained by operation.

Dr. EWART exhibited an Automatic Respiratory Jacket or Waistcoat for applying continuous pressure to the chest in cases of emphysema. It was intended to be worn night and day. It was provided at the sides and over the shoulders with elastic, the tension of which could be adjusted. A boy suffering from emphysema was also exhibited. Dr. Ewart remarked that the boy's chest measurement had decreased while wearing the jacket for six weeks, and his symptoms had improved.

Mr. E. H. WILLOCK also demonstrated an apparatus designed for the same purpose—namely, the relief of emphysema. It was not like Dr. Ewart's for applying continuous pressure but was intended for intermittent use. The hands were raised and the jacket was relaxed, and as the hands were brought down the chest was compressed by an arrangement of pulleys passed up over a fixed pulley above the head. In treating emphysema with this apparatus expectoration at first was increased and then after a day or two it diminished and the patients improved in other respects. The same apparatus could also be used to teach respiratory exercises to phthisical patients.

Mr. W. H. BATTLE exhibited a case of Tumour of the Femur in a man, aged 29 years. The femur was two inches shorter in length on that side. There was a well-marked history of syphilis. Regarding the diagnosis he had considered several possibilities, but had come to the conclusion that it was a case of osteitis deformans involving only one bone. He had only been able to find a record of one similar case, one that was recorded by Mr. A. A. Bowlby in the Transactions of the Pathological Society of London.

Dr. W. J. HADLEY exhibited two rare cases of Rheumatism. The first was a case of osteo-arthritis in a female child, aged eight years. During the past three years she had had five attacks of rheumatism. The first three were ordinary polyarticular rheumatism, which cleared up completely, but the fourth and fifth had left some deformity in the joints. The present attack started in April, 1899, and she was now completely crippled. There was considerable deformity and enlargement of most of the joints which skiagrams showed in the larger joints to be due to increase of the soft tissues; no alteration in the bones was visible. The right hip was fixed and the neck was stiff. There was a systolic bruit at the base which was tending to become less marked and was probably of hæmic origin. The spleen was slightly enlarged. Anti-rheumatic medicines had proved useless. Massage and daily sweating of the joints had given fairly satisfactory results. There had been occasional slight elevations of temperature. The second case was that of a female child, aged nine years, who had had chorea three years before. There was no history of rheumatism or of joint affection at any time. The present illness began a week before admission to hospital with pains in the limbs, headache, and two days before admission severe pain in the right foot. There was no definite arthritis at any time. On admission there was well-marked mitral regurgitation with cardiac hypertrophy; the spleen was enlarged, firm, but not tender. After three days of irregular pyrexia there was a sudden rise, accompanied by dizziness, faintness, and vomiting (probably of embolic origin). Ten days later a similar attack, though without pyrexia, was attended by pain in the lumbar region. A presystolic mitral bruit and a systolic aortic murmur also appeared. Later the occurrence of sudden pain in the left arm, with tenderness and other symptoms, pointed to embolism of the brachial artery, and the radial artery had since been pulseless. The first case was interesting by reason of its rarity. It was a typical case of rheumatic arthritis occurring in a child and tallied with the cases reported by Dr. Still. The interest of the second case lay in the occurrence of the emboli which had arisen in the course of endocarditis (certainly of rheumatic origin) in a child.

Mr. J. LYNN THOMAS exhibited a Tourniquet which he had designed for compression of the femoral and other arteries. It consisted of a large pair of forceps somewhat resembling those of Doyen. It was necessary to make a small opening in the skin so as to introduce one blade of the instrument beneath the artery unless it was applied to an amputation flap. The apparatus enabled the operator to dispense with one assistant less and was far more aseptic than the ordinary rubber tourniquet. Mr. Thomas had used it for amputation of the leg, thigh, arm, and penis. Another advantage was that it did not give rise to vasomotor paralysis as did the ordinary tourniquet.

Mr. MCADAM ECCLES exhibited two cases illustrating Variations in Inguinal Herniæ due to Abnormal Descent of the Testis. One man, aged 23 years, exhibited interstitial hernia. He had both testes only partially descended, the right being in the canal and the left just appearing at the site of the deep abdominal ring. The hernial sac in his case was probably between the aponeurosis of the external oblique and the muscular fibres of the internal oblique muscles. It was almost certain that the abnormal descent of the testis was a factor in the production of the interstitial sac, but that it was not the only one in all such cases was evidenced by interstitial herniæ occurring in females. Here and in others in the male sex, the smallness or absence of the aperture known as the superficial abdominal ring might play a considerable part in causing the hernial sac to pass in the plane of least resistance. The second case was one of cruro scrotal hernia in which the sac, following the course of an ill-developed testis, had missed the entrance into the scrotum proper and had distended the skin forming the junction of the thigh and the scrotum. The right testis was present in the perineum and was small and tender. The covering of the sac was normal skin and did not contain any dartos tissue. In both cases the scrotum was developed, though in the first and last its right half was undistended by the presence of a testis in it, while in the second case both sides were thus wanting in distension.—Mr. W. H. BATTLE wished to know whether they ought to regard cruro-scrotal hernia as a new variety. He thought that the hernia in one of these cases was very probably associated with injury.—Mr. A. J. BARKER had recently operated on a somewhat similar case occurring in a woman. There was an inguinal hernia and an interstitial one on the same side, and consequently the testicle could not be regarded as essential to the production of the condition.—Mr. G. R. TURNER referred to a case of Undescended Testis and Hernia which he had recently operated on, in which he found two distinct sacs. One sac was connected with a congenital hernia and the other went right up into the peritoneum with a bifid neck.—Mr. MCADAM ECCLES, in reply, said that he still regarded the case as a true cruro-scrotal hernia, but he did not wish to refer to the condition as a new form of hernia.

Dr. S. MULLICK exhibited a case of Dextro-cardia occurring in a male patient aged 22 years. The patient had come complaining of pain, palpitation, dyspnœa, giddiness, and faintness. The pain was situated under the right mammary region and varied in its character, resembling dyspepsia in some respects. There was nothing in the previous or family history of importance, excepting that one day in August, when ascending a ladder after dinner, he was suddenly seized with severe palpitation, after which he was laid up for some days. The apex beat was on the right side of the chest in the sixth interspace and the cardiac impulse could be seen in the fourth and fifth interspaces. The præcordial dulness extended 11½ centimetres to the right of the mid-sternal line. There were no murmurs.

Dr. E. CAUTLEY showed the Heart of a boy, aged 14 years, whom he brought before the last clinical meeting of the society in November[1] as a case of congenital heart disease, probably aortic. The boy was very small for his age and the physical signs were consistent with the diagnosis of aortic stenosis, but the diagnosis was not unanimously accepted at the time, among other suggestions as to the nature of the lesion being a patent ductus arteriosus or a more immediate communication between the aorta and the pulmonary artery. The boy died suddenly eight days afterwards. His heart weighed five and a half ounces and was evidently hypertrophied. The aortic valves were very much thickened, rigid, and adherent at their edges with the exception of a small, irregular, slit-like orifice between two of the valves. No other abnormality was present. The diagnosis of aortic

[1] THE LANCET, Nov. 18th, 1899, p. 1263.

stenosis was therefore correct though the congenital origin of the affection could not be proved.

CLINICAL SOCIETY OF LONDON.

Cases of Hæmo-pneumothorax.—Perforated Duodenal Ulcer.—Stricture of the Small Intestine following Strangulated Hernia.

A MEETING of this society was held on Feb. 9th, Sir R. DOUGLAS POWELL, the President, being in the chair.

Dr. H. D. ROLLESTON made a communication on a fatal case of Hæmo-pneumothorax of unexplained origin. The patient was a male, aged 21 years, whose past history showed nothing but dyspepsia. After some diarrhœa and abdominal pain, lasting two days, he was suddenly seized with agonising pain in the right hypochondrium, radiating to the umbilicus and right shoulder. On admission, 24 hours later, to St. George's Hospital he appeared to be moribund, but subsequently he rallied and next day had signs of pneumothorax on the right side with considerable displacement of the heart. Some doubt existed as to whether the collection of gas was above or below the diaphragm. Paracentesis of the right side of the chest brought out blood and some air under considerable pressure. Death occurred from exhaustion and bronchitis eight days after the onset of acute pain. At the necropsy the right pleura contained 60 ounces of blood. The thoracic wall was opened under water and no air was found in the right pleura. Except for collapse the lung was healthy. Microscopically there was no evidence of tubercle or pleurisy. There were no signs of hæmophilia, scurvy, cirrhosis of the liver, aneurysm, or traumatism. No cause for the blood or for the gas in the pleura was forthcoming.—Dr. NEWTON PITT narrated the history of a case of Hæmo-pneumothorax which had been under his care which was apparently due to the rupture of an emphysematous bulla. The patient was tapped during life and eight fluid pints of blood were removed. After death both air and fluid blood were found in the pleura. Dr. Pitt discussed the various causes of hæmothorax. Apart from traumatism the cause of this condition was always some lesion of the lung, such as tubercle, caseous pneumonia, pulmonary apoplexy, gangrene, or abscess of the lung. Blumenthal maintained that hæmothorax was occasionally a primary condition, but that seemed doubtful. Some tuberculous lesion was the commonest cause, but no evidence of this could be found in the case under consideration.—Dr. HINGSTON FOX referred to the case of a man, aged 44 years, who was in very robust health until he was suddenly taken with symptoms resembling an attack of pleurisy. There were pyrexia, pain in the chest, and signs of pleuritic effusion. He was tapped and 15 ounces of dark blood came away, but the tube got blocked. Three days later there were signs of air and of fluid in the chest and the patient was again tapped. This time 45 ounces were removed and the aspirator tube discharged bubbles of air under water. After this the patient got gradually well. A tuberculous lesion was suspected and he was sent away for a voyage, but he remained quite well and had been in robust health ever since. It was worthy of note that this patient was employed in a very badly ventilated office in the city which was built over made ground which had subsided, sewer air gaining access to the building. Three other employés in the same office broke down with tuberculous mischief in the lungs.—Sir DYCE DUCKWORTH thought that in the majority of these cases the sequence of events was first a rupture of lung tissue followed by ordinary pneumothorax, this being followed by hæmorrhage, and behind the whole was tuberculosis.—Dr. SAMUEL WEST recalled a curious case of Pyopneumothorax. The patient was operated on and the pus was removed, but shortly afterwards hæmorrhage took place in both directions, the patient being attacked with hæmoptysis and hæmorrhage into the pleura. At the necropsy he was found to have a tuberculous cavity in which an aneurysm had ruptured, giving rise to copious hæmorrhage in both directions.—Dr. PERCY KIDD asked whether the bacillus capsulatus aërogenes could be quite excluded. He understood that there was no tuberculosis in either Dr. Rolleston's or Dr. Pitt's case.—The PRESIDENT said he would like the question of the presence of air cleared up; and another question was, Did the blood precede the air or did the pneumothorax precede the hæmorrhage? An interesting point in Dr. Newton Pitt's case was the enormous amount of hæmorrhage which had taken place. He once made experiments by injecting fluid into the pleura at post-mortem examinations and he never succeeded in injecting more than six or seven pints at most. He said it was curious that the blood should remain liquid in the presence of air.—Dr. H. D. ROLLESTON, in his reply, said that in his patient the illness was initiated by diarrhœa and abdominal pain, symptoms which might point to a toxic condition. He had made the most careful search, but could not find any evidence of tubercle in the lung or pleura. If the air had arisen from the bacillus capsulatus aërogenes there would probably have been more air after death rather than less, for the microbe would go on increasing rather than dying out after death.—Dr. NEWTON PITT, in his reply, said that the only preceding symptoms in his case were sore-throat and diarrhœa for three days. He had expected to find tubercle, but had failed to do so. Alluding to the amount of effusion present, he referred to a case of pleuritic effusion in which seven pints had been removed, and he believed as much as 11 and 12 pints had been recorded. As regards the order of appearance of the air and the blood, even when the case was first seen air was present, but it was impossible to say precisely which had been primary.

Dr. J. J. PERKINS and Mr. C. S. WALLACE made a communication on a case of Perforating Duodenal Ulcer; Operation; Recovery. The patient, a male, aged 52 years, was admitted to St. Thomas's Hospital complaining of epigastric pain of three days' duration with a violent exacerbation six hours before. There had been no vomiting. The abdomen was tense, rigid, almost motionless, with complete absence of liver dulness in the nipple line. Ten hours after the onset of acute pain the abdomen was opened through the right rectus, the age and sex of the patient, the history, and the absence of liver dulness making it probable that a duodenal ulcer had perforated. A perforation was discovered at the junction of the first and second parts of the duodenum; the edges were clean cut and showed no sign of induration. The intestines showed some points of injection, but there were no very evident signs of peritonitis. The perforation was closed with two rows of sutures and the abdomen cleaned after evisceration and flushing with sterilised water. The abdominal opening was closed with silkworm-gut sutures and by a row of buried sutures. A gauze wick was left in passing down to the seat of the ulcer without further drainage. Convalescence was uneventful; the plug was removed on the second day, the bowels were opened by enema on the third day, and milk was first given by the mouth on the tenth day. Operation on these cases was favoured by the site of the perforating ulcer, which in 29 out of 37 reported cases was on the anterior wall. The condition of the abdomen when seen was that of early peritonitis, rigidity, contraction, and loss of movement. Paroxysmal exacerbations of pain due to peristalsis increased the resemblance to colic. The complete absence of the liver dulness internal to the nipple line was to be taken as a guide. In locating the perforation to the duodenum the previous history of the patient was an aid in perhaps half the cases, though perforation in many cases occurred without the slightest previous warning. The site of the pain caused by the perforation at its onset was of great help though occasionally misleading. From statistics it was clear that duodenal ulcer could hardly be diagnosed from gastric ulcer. The resulting peritonitis was sometimes diffuse from the first, but often the great omentum shielded the mass of the intestines and directed the extravasation to the pelvis. The right lobe of the liver on its upper aspect and the parts round the duodenum were especial sites of the inflammation in these cases and special care should be taken in cleansing these regions. The whole abdomen, however, should be irrigated, the intestines being turned out and themselves flushed. Drainage was not required, but a gauze wick should be left in the abdominal wound running down to the site of the ulcer. The collapse which was a marked feature of these perforations high up should be met by saline infusion and operation proceeded with as quickly as possible.—Mr. W. H. BATTLE congratulated Dr. Perkins and Mr. Wallace on the result. He had occasion some time since to look up the statistics of the operations for ruptured duodenal ulcer and was surprised to find how very few recoveries were known. The cases which he had seen were admitted for general septic peritonitis and there was no means of finding out

before the operation where the origin of the disease was. The presence or absence of vomiting was not a help. Only recently, in a case of perforated ulcer of the stomach situated not far from the pylorus, there was marked vomiting. He considered that the operator in Dr. Perkins's case was lucky to be able to operate so soon after the commencement of symptoms.—Mr. ARTHUR BARKER wished to allude to the plan of irrigation and removal of the intestines adopted by Mr. Wallace. He and many other surgeons did not at all agree with this course, and because the case was successful he felt it all the more incumbent on him to protest against the procedure. This manipulation of the intestines was in most cases attended by considerable shock. It was much better to soak up the effused fluid—which was not always widely effused—with gauze and to trust to the peritoneum to dispose of the rest. Even when extravasation was widely effused it was possible to clear out both flanks and other parts of the peritoneum by straps of antiseptic gauze. He wished to protest against both the evisceration and the irrigation. Either alone was dangerous. The peritoneum had a marvellous power of dealing with septic matter in moderate quantity.—Mr. PEARCE GOULD would like to know whether the previous speaker had been right in referring to the contents of the stomach as septic matter. It was irritating from its acid condition no doubt and the injury of the peritoneum might lead to septic absorption.—Dr. F. J. POYNTON thought that duodenal ulcer was more frequent than was generally believed, or else perhaps it was on the increase. During two years' necropsies at St. Mary's Hospital he had met with eight fatal cases and had seen several others in the hospital wards. Of these eight, six were male and two were female, their ages ranging from 28 to 55 years. One of these had no symptoms at all during life and a second was admitted for cardiac failure and died from melæna. In four acute perforation occurred and two of these were operated on. Turning to their pathological aspect all the ulcers were chronic with raised, thickened edges and had formed considerable adhesions. The leading symptoms were prolonged dyspepsia and abdominal pain, sometimes very severe, extending in some cases for from five to ten years. The great severity of the pain was the chief point. In two of the cases the pain only occurred at night, as in a special form of dyspepsia, and they were free from pain during the day. The difficulty of diagnosis and the chronic nature of the ulcers, together with the uselessness of medical treatment, were some of the lessons derived from these cases. In six of the cases the duodenal ulcer was associated with chronic renal disease, but probably there was a common cause underlying both. The prevalence in the male sex constituted a hint to surgeons as to diagnosis, and the presence of firm adhesions in all the cases was also a hint so that they might avoid breaking down protective adhesions.—Mr. J. CHARTERS SYMONDS agreed with Mr. Barker that evisceration added to the risk of an operation and it seemed to him an unnecessary proceeding. Not to flush the abdomen at all in every case was perhaps carrying things to the other extreme. Probably flushing and then mopping with gauze without removing the intestines was the best. The various cases must be dealt with differently according to the extent of the extravasation. He referred to a case in which he had divided the duodenum for the relief of distension and distress.—Dr. J. J. PERKINS, in his reply, regretted the absence of Mr. Wallace in South Africa, as he would have been able to refer to the surgical aspect. He remarked that it was the absence of adhesions which lead to perforation. At least, they were wanting in most of the recorded cases of perforating duodenal ulcer, as compared with non-perforating ones.

Mr. T. H. KELLOCK read a paper on a case of Stricture of the Small Intestine following Strangulated Hernia. The patient, a youth, aged 16 years, was admitted to the Middlesex Hospital for strangulated left inguinal hernia. Two years previously he had been operated on at the West London Hospital for hydrocele in connexion with an imperfectly descended testis on this side. He had had a hernia for some time, but had always been able to reduce it easily; he had not worn a truss. He had strained himself on the morning of admission; the hernia came down and he could not reduce it. On admission he was a good deal collapsed and was vomiting; the swelling in the left inguinal region was as large as an orange. At the operation there was no fluid in the sac, which contained a piece of discoloured omentum and about four and a half inches of small intestine; the latter was very dark in colour, but still retained a shiny appearance, and after the constriction had been divided and a little more intestine drawn down the colour improved a little. The intestine was therefore returned to the abdomen and then the testicle was found lying internal to and behind the hernial sac. The testicle and tunica vaginalis were removed and the operation was completed by closing the inguinal canal and skin by sutures. For three weeks the patient did well. Then he began to suffer from slight pain in the abdomen, some vomiting, and occasionally slight distension of the abdomen. On one occasion he had a rigor lasting 15 minutes, when the temperature rose to 102·2° F., but with this exception the temperature was normal throughout. By the use of medicines and enemata these symptoms were relieved and the patient was sent to a convalescent home five and a half weeks after the operation. The bowels were then acting regularly and he was free from pain. During his stay of three weeks at the home he had occasional pain in the abdomen, constipation, vomiting, and some distension of the abdomen, and these symptoms continued more or less till his re-admission to the hospital six weeks after his discharge. For a few days he improved under treatment, but then the symptoms returned, so the abdomen was opened in the middle line below the umbilicus. A coil of small intestine was found in the right iliac fossa, which was considerably constricted; the gut above it was hypertrophied and dilated, that below of about normal size; a piece of omentum containing rather large vessels was attached to the front of the coil. This piece of omentum was ligatured and divided and a lateral anastomosis made by Halstead's method, uniting the intestine above and below the constricted portion. For two or three days the patient made fair progress, but then the abdomen became distended and tender, showing evident signs of general peritonitis; vomiting recommenced and the general condition became very bad. The wound was re-opened and a drainage tube was inserted leading down to the seat of operation. Death occurred about 15 hours subsequently. At the post-mortem examination general peritonitis was found; the anastomosis was found to be firm and watertight, with a good opening between the portions of bowel united. There was gangrene and perforation of the coil of small intestine, which had been put out of action by the anastomosis, and the mesentery attached to it was hard and puckered. In this portion a stricture was found extending about half an inch in the long axis of the bowel and almost completely obstructing the lumen. Attention was called to the rarity of stricture of the small intestine to a degree calling for operative treatment as a result of strangulated hernia. The association of inguinal hernia and imperfectly descended testicle was common, but in this case the hernia was not of the congenital variety as the tunica vaginalis was separate from the sac of the hernia. The bowel was returned to the abdomen at the first operation rather than resected, as it was thought it would recover, more especially in a patient of this age. At the second operation the chief interest was in the piece of omentum which was adherent to the bowel; it was noticed at the time that this contained large vessels, but the importance of this fact was not recognised till later. What had apparently occurred was that at the time of the strangulation this mesentery had been severely constricted, and after the return of the bowel it had become adherent to the omentum, and, nourished in this way and not by means of its mesentery, the division of this piece of omentum had cut off the blood-supply of the coil of intestine, which had therefore become gangrenous and perforated, setting up a general and fatal peritonitis. It was disappointing that such an unlooked-for occurrence should prove fatal in a case which otherwise promised so favourably.—Mr. W. H. BATTLE considered that stricture of the small intestine due to inflammation of the wall or its consequences was a rare condition. He had only found it in three cases of obstruction on which he had operated. In the first case, that of a boy, the symptoms were chronic; the local state was inflammation of the bowel wall secondary to a caseating gland in the mesentery. Lateral anastomosis was performed and gave good result. In the second case, that of a youth who had been under his care for a sinus remaining after some operation about the appendix two years earlier, the symptoms were acute and depended on cicatricial contraction of the ileum near the ileo-cæcal valve. Here the operation of enteroplasty was unsuccessful. The third case was that of a man, about 60 years of age, with

acute symptoms of obstruction. He had a reducible inguinal hernia of several years' standing. At the operation a cicatricial contraction of the small intestine with a twist in the normal gut was found. It was considered advisable to restore the channel by reduction of the volvulus rather than by doing an anastomosis. His condition was bad and it was feared that he might not be able to stand the prolonged operation. Recovery was satisfactory, but on the return of symptoms some months later the bowel was short-circuited with much relief. Almost a month ago he (Mr. Battle) had operated on a large irreducible femoral hernia in which there was marked cicatricial contraction of the small intestine which had formerly been exposed to nipping by a truss and was adherent to the bottom of the sac.—Mr. CHARTERS J. SYMONDS remarked that Mr. Kellock had attributed the fatality of his case to failure of the blood-supply and he would like to know whether the gangrene was limited to the part above the stricture.—Mr. KELLOCK, in reply, stated that this was so; nearly the entire loop of bowel was dark and gangrenous. The blood-supply of this part of the bowel had been derived from the omentum, the vessels of which were enlarged. This was one of the chief points of interest in the case.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Case.—Fibrinous Bronchitis.—The Pathology and Treatment of Pneumonia.

THE eighth ordinary meeting of the session was held on Jan. 25th, Mr. EDGAR BROWNE, the President, being in the chair.

Dr. T. R. BRADSHAW showed a man, aged 24 years, with Extreme Atrophy of the Right Trapezius, Biceps, and Brachialis Anticus. The wasting had come on gradually and its distribution suggested the commencement of the facio-scapulo-humeral form of idiopathic muscular atrophy, but it was possible that it was due to over-use of the affected muscles.

Dr. MAX LOEWENTHAL read notes of a case of Fibrinous Bronchitis.

Dr. NATHAN RAW read a paper on the Pathology and Treatment of Pneumonia, based on an observation of 1047 cases occurring during a period of 12 years. The general death-rate of the whole of the cases was 23·4 per cent. During the last two and a half years 317 cases of pneumonia had been admitted into Mill-road Infirmary (including, of course, all forms of pneumonia and those dying shortly after admission), with a total death-rate of 34 per cent. With respect to the pathology of the disease there could be no doubt that it was caused by a specific micro-organism, the diplococcus of Fraenkel, influenced to a very great extent by rapid changes in climate and a low resisting power in the individual. This low resisting power he had noticed most frequently in the chronic alcoholic who rarely recovered from a bad attack of pneumonia. Dr. Raw reviewed at length the various forms of treatment which had been used in the past and were being employed at present and gave it as his opinion that no specific form of treatment influenced the progress of the disease or in any way cut it short. He was of the opinion that the treatment of the future would be antitoxic, the anti-pneumotoxin being either procured by removing serum from a patient who had just recovered from pneumonia or experimentally from immune animals.—Dr. A. T. H. WATERS spoke of the statistics of other hospitals. The mortality from pneumonia varied and the percentage would differ according as complicated cases were included or not. Dr. Waters had tabulated all the cases occurring in hospital practice to the number of 151 with a mortality of 7·28 per cent. He had no doubt of the effects of chill and exposure as an exciting cause. With reference to treatment he thought that many cases would do well without much active interference, and attached great importance to nursing, dieting, and the surroundings of the patient. He had never practised venesection. He attached great value to carbonate of ammonia and in many cases he gave varying quantities of alcohol. In certain adynamic cases he thought quinine was useful and in extreme cases he had seen good results from the inhalation of oxygen and the injection of strychnine with the free use of stimulants. He was in favour of mild counter irritation, but did not approve of blistering in the early stages.—Dr. W. CARTER thought that on clinical grounds one must recognise two different forms of pneumonia—(1) simple and tending to recovery; and (2) septic and very dangerous. He noted the variation in the intensity of the disease in different years and he thought that there was a general epidemic influence that gave undue intensity to the disorder, instancing small-pox in 1881 and influenza at the present time. Referring to treatment, he believed that where the cardio-pulmonary mechanism was seriously disturbed by the sudden invasion, as evidenced by gasping, small pulse, ashy colour, orthopnœa, &c., the abstraction of a few ounces of blood relieved and favoured recovery. There was one stage where opium was useful—viz., where there was a sudden fall of from 6° to 8° of temperature at the period of crisis with the onset of active delirium. Physically except for this fall in temperature the patient seemed the same, the same amount of exudation being present; but vitally he was different, and a good sleep, which then may safely be produced, was most restorative. In all other conditions opium was injurious. In hyperpyrexia he had seen marked improvement by a single cold bath or the application of cold cloths.—Dr. T. R. GLYNN considered that the mortality from pneumonia in Liverpool had been higher in recent years than it was 20 years ago and that deaths now were not infrequent in young people, whereas Barther had only met with two deaths in 212 cases of pneumonia in subjects under 16 years of age. The rate of mortality was also influenced by the length of time elapsing between the onset of the illness and the commencement of treatment. Gripalle's figures emphasised this statement; he found that the mortality amongst patients admitted to the hospital on the first and second days of disease was one in 15, on the fourth day one in eight, and on the sixth day one in four. The pneumococcus often associated with other organisms had been found in the sputum in all of his cases of pneumonia. He discussed the value of leucocytes as an aid to prognosis and referred to the various theories advanced to explain the crisis. In treatment he often resorted to physical measures for reducing the temperature, to large doses of digitalis for procuring sleep, or the hypodermic injection of atropine, and he believed in the efficacy of salicylate of soda and ammonia.—Dr. J. BARR made some remarks, after which the discussion was adjourned until Feb. 8th.

Presentation to the Librarian.—National Association for the Prevention of Consumption.—Exhibition of Cases.—Adjourned Discussion on the Treatment of Pneumonia.

The ninth ordinary meeting of the session was held on Feb. 8th, Mr. EDGAR BROWNE, the President, being in the chair.

Mr. WILLIAM JONES, the resident librarian, having been 21 years in the service of the Medical Institution, the members, wishing to mark their appreciation of his services, had collected a sum of £193 12*s.* 9*d.* (£95 6*s.* being collected by Dr. Rentoul and £98 6*s.* 9*d.* by a sub-committee of the Medical Institution), and the PRESIDENT presented to Mr. Jones a cheque for that sum.—Mr. JONES thanked the members, introducing some interesting reminiscences in his remarks.

Dr. NATHAN RAW proposed:

That it is desirable that a local branch should be established in Liverpool in connexion with the National Association for the Prevention of Consumption and other forms of Tuberculosis.

Dr. W. CARTER seconded the motion, which was carried *nem. con.*

Dr. E. W. HOPE said that Liverpool had, through its city council, its Medical Institution and its boards of guardians as well as, through the munificence of private individuals, taken active measures in regard to tuberculosis, but no branch of the National Association for the Prevention of Consumption had yet been formed there. He moved that the sub-committee appointed in 1898 to deal with questions on tuberculosis should be re-appointed.

This motion, seconded by Dr. CARTER, was carried *nem. con.*

Mr. C. G. LEE showed: 1. A patient who had been Accidentally Shot, the bullet penetrating the inner and upper angle of the right orbit, traversing the orbit, missing the eyeball, and finally lodging (as shown by radiographs) in the spheno-maxillary fossa. The boy was in perfect health, and although the bullet was still in the head except for a limited choroidal atrophy he appeared to be none the worse. 2. A youth who had a Piece of Steel Encapsuled with Lymph

lying at the Posterior Part of the Retina. When first seen there was traumatic cataract and the foreign body was discovered by the radiograph. The vision was now $\frac{6}{12}$ and the eye was quiet, so Mr. Lee had decided to make no attempt to remove the foreign body.

Dr. E. W. HOPE, in opening the adjourned discussion on Dr. Raw's paper on the Pathology and Treatment of Pneumonia, said that the profession generally were agreed that intemperance predisposed to, and probably actually caused, the fatal results in many cases of pneumonia, but reference to this fact was not made in the death certificates. He had also found in Liverpool that fatal pneumonia coincided with influenza epidemics and that the fatality of these diseases was not associated so much directly with cold as with sudden changes of temperature.—Dr. C. J. MACALISTER, referring to the serum treatment of pneumonia, thought that the argument that the crisis resulted from the production of the antitoxin and that immediate relapse was thereby rendered unlikely was not maintained in the case of broncho-pneumonia where fresh patches of consolidation succeeded one another, and that one attack of croupous pneumonia seemed to predispose to subsequent attacks.—Dr. ABRAM agreed as to the specific infective nature of acute lobar pneumonia. He thought that our present lines of treatment were unsatisfactory mainly because they were symptomatic, and hoped that the work of Washbourn, Pane, and others might give us a curative serum. He pointed out that Maragliano had recently shown that the admixture of digitalin with nutrient media completely inhibited the growth of the pneumococcus, which afforded a valuable suggestion for curative treatment.—Dr. A. G. GULLAN noticed that the mortality in lobar pneumonia had been greater in 1899 than in the three previous years at the Royal Infirmary and he thought that the type of the disease had been more severe constitutionally and the local signs more extensive.—Dr. J. HAY referred to the influence of the alcoholic habit and stated that out of 100 cases which he had watched two-thirds of the entire mortality were those of the alcoholics. He considered that cardiac valvular disease associated with pneumonia was of much less importance than degenerate myocardium, the condition of the latter being more important as a factor in the prognosis.—Dr. MACFIE CAMPBELL saw these cases at their commencement and was responsible for their early treatment, and considered that it was a much more fatal disease now than it was twenty years ago; that fact he attributed to the influenza poison. Pleurisy was a frequent initiating symptom, and for that aconite relieved the pain and fever. Salicylate of soda with carbonate of ammonia were his stand-by; and he used small doses of opium in the form of Dover's powder for the relief of pain. In order to clear up the point as to the influence of alcoholism on the mortality it would be well if death certificates should pass straight from the medical man to the registrar, otherwise the practitioner was placed in an awkward position.—Mr. A. E. DAVIS thought that with careful nursing and treatment the death-rate from pneumonia should be under 10 per cent. He advocated the treatment by carbonate of ammonia and brandy and would never use opium or other narcotics.—Dr. NATHAN RAW, in reply, said that he had included all forms of pneumonia in his statistics as it was impossible to classify them. He thought that the death-rate of genuine lobar pneumonia was probably about 12 per cent. and that no treatment had any effect in cutting short the disease or to any great extent in influencing its progress. He found that carbonate of ammonia was the most useful expectorant and stimulant, and the combination of chloral and digitalis was useful and soothing. Strychnine was the best drug in threatened heart failure. Oxygen was of little value, and as to alcohol many cases did not require it, but in others it was necessary and was most valuable. It should, however, be of good quality.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Ligature for Femoral Aneurysm.—Hæmaturia.—Increase of Nervous Diseases and Insanity.

THE fifth ordinary meeting of this society was held on Feb. 7th, Dr. JAMES DUNSMURE being in the chair.

Mr. C. W. CATHCART exhibited a boy, aged 15 years, after Excision of the Cæcum for Tuberculous Ulceration and Contraction. The boy had suffered from intestinal obstruction for about six months and had been twice in an infirmary for treatment. He presented all the symptoms of chronic intestinal obstruction, diarrhœa alternating with constipation, and spasmodic attacks of pain. On opening the abdomen a great mass was found to be present at the ileo-cæcal valve and adherent to the surrounding tissues. This mass was freed and excised and the cut ends of the bowel were re-united. The day subsequently to the operation the boy was suffering severely from shock, but after transfusion was performed he began to improve and made an excellent recovery. In six weeks he had gained 16 pounds in weight. The specimen showed the enormous thickening of the intestinal walls and the lumen was narrowed until a No. 6 catheter would hardly have passed.

Dr. ALEXANDER BRUCE showed a man, aged 33 years, suffering from Insular Sclerosis with a remarkable condition of adductor clonus. The affection began to show itself two years ago in the right arm and leg. The patient then recovered but the disease re-appeared in the left arm and later passed to the right arm and so to the legs. There was slight loss of bowel control; there was no great rigidity but a remarkable exaggeration of the deep reflexes. When the patient was seated on a chair and placed his toes on the ground a regular adductor clonus ensued alternating with an extensor clonus, and this continued for from five to ten minutes. Dr. Bruce had noted that there had been a great number of cases of exaggerated clonus seen of late, and he thought that the increased number of disseminated scleroses seen was a result of the influenza epidemic.

Dr. NORMAN WALKER showed a girl, aged 20 years, with an Ulcer on the Left Forearm and asked for a diagnosis. There were neither history nor evidence of syphilis or tuberculosis.

Mr. FRANCIS CAIRD showed two specimens of Sequestra from the Alveolar Margin of the Upper Jaw. The first was from a man, aged 30 years, who had had a primary sore eight years previously and had undergone several mercurial inunction "cures" abroad. In spite of these, however, being continued over a long time this sequestrum was exfoliated. The second was much larger and was from a man whose primary sore appeared 11 years previously. He was treated in the ordinary way with anti-syphilitic remedies and yet this bone necrosed. Another specimen was a sequestrum of the whole calvarium removed after death from a girl, aged 22 years, who suffered from congenital syphilis. The brain was flattened down with an accumulation of pus and granulation tissue. On the outer surface of the bone evidences of plastic periostitis were seen and on the inner surface small pits due to the granulation tissue.

Mr. DAVID WALLACE showed a case of Fracture of the Radius above the Usual Site of Colles's Fracture.

Mr. J. M. COTTERILL showed a Simplified Form of Trephine which he had devised. It consisted of two pieces only and was readily used and cleaned.

Mr. C. W. CATHCART gave a demonstration of a Plan for using Gauze Dressing Rolled up into Balls as Ordinary Twine was Wound. In this way the piece used might be cut off without soiling or infecting the rest of the roll.

Mr. F. CAIRD showed the patient in a case of Ligature for Femoral Aneurysm. The man was aged 74 years and when Mr. Caird first saw him on Oct. 23rd last he was suffering from a ruptured femoral aneurysm on the right side. The whole thigh was greatly swollen, cold, and pulseless. There was no pulsation in the tibial arteries. The history given was that the man was a rubber-worker and had suffered from pulsating swellings in both inguinal regions for some months. Early in August the right aneurysm increased greatly and latterly had burst. The patient refused to be removed from his dirty dwelling-house, so the operation of ligaturing the vessel was performed there. Bronchitis and retention of urine ensued and the patient would hardly remain in bed, yet in spite of all an excellent recovery was made.

Mr. DAVID WALLACE read a short note on Hæmaturia due to Bilharzia Hæmatobia. He referred to the wide distribution of the disease from the Cape to Cairo and said that it was so frequent a disease in men that the flow of bloody urine was hardly noted by them. He showed that the disease might be contracted by drinking impure water or by bathing. He had observed three cases in Edinburgh, all of whom were young men. The first patient went to Colesberg in South Africa five years ago.

While there he both drank the water and bathed and in two months had hæmaturia. He was much troubled with priapism and seminal emissions, due probably to irritation of the urethra by the ova. The next patient was aged 21 years. Born in South Africa he had suffered from hæmaturia from the age of 13 years. He was subject to severe attacks of renal colic, so much so that it was thought that he had renal calculus. The cystoscope showed that the bladder was normal in appearance. The third case occurred in a medical student from Newcastle, Natal. He exhibited no symptoms but the passage of blood at the end of micturition, as always occured in slight cases. In examining such cases the small blood-clots should be carefully investigated, as the ova were generally entangled in them. Mr. Wallace had found that salol had done good, but that might be an accident.

Dr. WILLIAM W. IRELAND read a paper on the Increase of Diseases of the Nervous System and of Insanity. After alluding to Professor Erb's last published discourse, in which he dwelt on the increase of the causes of nervous irritation and depression, greater anxiety, hurry and mental toil of life, overtasking at school and the irksomeness of study for the learned professions, the more exciting nature of amusements, the more stimulating character of the diet (these being the causes increased effects were bound to follow), Dr. Ireland could have wished that Professor Erb had afforded some direct evidence of this increasing nervousness which he said had been going on for the last 30 years. The strain of life fell most severely on the middle classes. At the same time the new conditions of their life to-day were not without their compensations. If they moved about more they obtained more frequent amusement and change of air; if letters and telegrams too often claimed their attention and disturbed their repose they often banished uncertainty and anxiety. Drunkenness had become less prevalent both amongst the upper, middle, and, it is reasonable to believe, the lower classes. In general they led more secure lives than their fathers did and the condition of the working-classes had greatly improved, both financially and physically. Still, Dr. Ireland thought that the strain upon the nervous system was getting greater, at least for the middle and upper classes, and consequently they might expect more nervous derangements and breakdowns. To make a general opinion like this, evident by exact inquiries, was on the face very difficult. There were statistics to answer the questions as to whether insanity, idiocy, or the number of suicides were increasing; but as to whether other forms of nervous disease had become more frequent was a question which could hardly be approached in that way, as many of such disorders did not affect the mortality returns or appear as results in statistical tables of any kind. Dr. Ireland addressed to a number of medical men the following questions: (1) Have you found since you began to practise medicine that there had been an increase in the relative frequency of diseases of the nervous system? (2) Have new forms come into prominence? (3) Have you observed any change in the type of old diseases? To these circulars a good many interesting replies were received and several pointed out the dangers of fallacy in answering these questions. The most trustworthy answers might be expected from medical men who had long practised in one district in the country or in small towns, treating every class of patients alike, but these gentlemen who answered the inquiries all declared that they saw no reason to affirm that diseases of the nervous system had increased in their districts relatively to other diseases. Some physicians of experience practising in large towns were of the same experience. On the other hand, some physicians of reputation in the same towns, but presumably treating a different class of patients, had stated that nervous diseases had increased in frequency during the last 20 years. Most of the latter consider that the increase has taken place in the lighter forms, especially in neurasthenia. Few physicians had noticed any change in the type of disease. Dr. Byrom Bramwell thought that there had been an increase in some of the functional neuroses and he was of opinion that disseminated sclerosis had, during the past few years, become commoner and that that was due to an antecedent attack of influenza in many cases. Dr. Ireland stated that monotonous work demanding severe and unremitting attention was most trying for the nerves and assisted in causing mental derangement. Thus nervous diseases and insanity were especially common with telegraphists, letter sorters, and persons who had to check mechanical labour. From all the answers received Dr. Ireland judged that there had been no noticeable increase in the number of diseases in country districts and in small towns, but there was some evidence that there had been an increase in those complaints in large towns, especially in functional disorders such as neurasthenia. Probably this increase affected some classes and persons of special pursuits more than others. Dr. Ireland made an exhaustive statistical inquiry as regards the incidence of severe forms of nervous disease in Scotland. He found that those nervous diseases which were assigned as causes of death were less frequent in Scotland than in England, and figures were given to show this and other facts. These statistics seemed to Dr. Ireland that it was not going in advance of the evidence to pronounce that the graver forms of diseases of the nervous system had increased in Great Britain as they were said to have done in France and Germany during the last 40 years. In Scotland there seemed to have been a stoppage in the increase from 1885 to 1897 which Dr. Ireland hoped indicated that the rise in the death-rates from these maladies was not fatally progressive. The increase in the number of suicides was most marked in great cities and seemed to be steadily progressing in every country in Europe excepting Norway. In Scotland the increase from 1865 to 1894 had been stated to be from a rate of 40 to a rate of 54, or an increase of 35 per cent. The same steady increase in the number of the insane went on in Scotland as in England, and there had been the same startling rise in 1897 and in 1898 which had distanced all arithmetical explanations. In 1898 there was an increase of registered lunatics of 487, of whom 49 were private patients and 438 were pauper patients. The census returns for Scotland showed in 1871 one insane person for every 494 of the population; in 1881 one insane for every 444; and in 1891 one insane for every 385. Of the causes assigned for this increase Dr. Ireland was willing to allow something for the accumulation of chronic cases in asylums; the greater readiness to grant admission to all cases of mental failure aided by the 4*s.* grant given from the Imperial Exchequer to ease the local rates; and the diminished number of discharges; yet Dr. Ireland believed that that would not account for the whole increase of insanity. Again and again had those who tried to explain it away been obliged to make the premisses of their arguments more ample in order to account for the striking increase of admissions to asylums. They had now to deal with a real and considerable increase in the number of the insane and this was but a part of an advance along the whole line, an increase in the frequency of nervous diseases, in suicide, and in insanity.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Tracheotomy in Diphtheria.

A MEETING of this section was held on Jan. 26th, Dr. J. W. MOORE, the President, being in the chair.

Mr. H. GRAY CROLY detailed the symptoms of a case of Diphtheritic Inflammation of the Larynx and Trachea in a child, two years old, admitted recently into the City of Dublin Hospital (detached Drummond Hospital for infectious cases) under the care of Sir George Duffey. The child was in a most critical condition, with urgent dyspnœa, lips bluish, and signs of collapse. With much difficulty the fauces were examined. The tonsils were considerably swollen and there was some evidence of a whitish patch on one side. High tracheotomy was performed by Mr. Croly; the child got immediate relief and fell into a peaceful sleep, but in a few hours became very restless, gradually got worse, and died within 12 hours of the operation. The larynx and trachea were removed in a few hours, but no further examination was made. The larynx and trachea with the silver tube *in situ* were exhibited. The epiglottis was thickened and hard; the folds at the entrance of the larynx were considerably thickened. On opening the windpipe a bluish false membrane easily detached was found at one side. Mr. Croly gave a sketch of the history of tracheotomy in such cases from the time of Hippocrates and read extracts from the writings of Professor William Henry Porter, Trousseau, Cheyne, Millard, and Peters. He quoted the statistics of Peters (in Trousseau's Medicine), 15 operations on girls between two and three years and 11 operations on boys of the same age; all were fatal. The largest proportion of

recoveries was in children over five years.—The PRESIDENT, Sir GEORGE DUFFEY, and others discussed the case.

SECTION OF SURGERY.

Epithelioma of the Glottis and Larynx.—Goitre.—Foreign Body in the Knee-joint.—Aneurysms.

The first clinical evening of this section was held on Jan. 19th, Mr. R. L. SWAN, the President, being in the chair.

Mr. H. GRAY CROLY exhibited a male patient, aged 42 years, suffering from Epithelioma of the Epiglottis and Larynx. There was a growth attached to the epiglottis. There was no history of syphilis. The patient became emaciated and suffered from considerable dyspnœa. Tracheotomy was performed under chloroform on Nov. 14th, 1899. The veins were very large. He had shown the growth to surgeons and specialists and they had agreed with his diagnosis. The glands, which had been very large, had gone down very much, which seemed to indicate that tracheotomy stayed the progress of the disease. There was no difficulty either in producing or continuing the anæsthesia.—Professor BENNETT, Dr. J. KNOTT, the PRESIDENT, and others discussed the case.

Mr. JOHN LENTAIGNE exhibited a patient, aged 20 years, from whom he had removed the greater portion of a very large Goitre on Sept. 4th, 1899. The case was of interest inasmuch as the operation had been done entirely under local anæsthesia by cocaine It was well known that Professor Kocher habitually used this method with success in cases of severe goitre, but Mr. Lentaigne was not aware that so far anyone in Ireland had done so. The result had been in every way most satisfactory. The goitre consisted of three lobes, a very large right lobe, a large middle lobe, and a comparatively small left lobe. On account of the patient's dyspnœa Mr. Lentaigne preferred local anæsthesia to ether or chloroform. During the entire operation immunity from pain was enjoyed by the patient, who showed no discomfort of any kind, except for a moment, when the upper horn of the growth which burrowed deeply under the larynx was being extracted. Very little blood was lost as the vessels were tied before being cut. The goitre proved to be of the colloid variety. The left lobe of the goitre, which remained, had shrunk since the operation to such an extent as to be now barely noticeable and the patient was in excellent health and condition. The incision employed was the collar incision recommended by Professor Kocher. The cocaine was used hypodermically and was injected along the line where the incision was subsequently made; he did not think it would have any effect if applied to the surface of the skin. From time to time during the progress of the operation a little cocaine was dabbed on the tissues. He commenced his incisions as soon as he had completed the injections.—Mr. H. G. CROLY, Dr. KNOTT, and Mr. F. T. HEUSTON discussed the case.

Mr. R. L. SWAN showed a man, aged 22 years, from whose Knee, two years ago, he had removed a Loose Cartilage in the ordinary manner at the inner side. Soon afterwards he began to complain of symptoms indicating the presence of another similar body in the joint. Nothing, however, could by the most careful examination be felt. Mr. Swan waited for some time in the hope that the body would become detached, but the constant occurrence of locking of the joint, followed by synovitis, had the effect of rendering the limb useless. A skiagram showed the outline of a foreign body in the joint. A lateral incision at the outer side was made, but this proved inefficient. Accordingly, a transverse section of the patella was made, and the body was found attached by a strong fibrous envelope to the intercondyloid notch. The patient had now a perfect joint.

Mr. F. T. HEUSTON brought forward a man for whom he had ligatured the left subclavian artery in its third stage for Traumatic Subclavio-axillary Aneurysm four years since. At the time of the operation he was 50 years of age and had been 20 years in the army. He was admitted to the Adelaide Hospital in February, 1896, suffering from severe pain in his shoulder, left arm, and back, which was then continuous, although it had been for some time at first intermittent. The superficial veins of the left arm were tortuous, the arm being also swollen and œdematous. The clavicle was raised by a tumour occupying the supra- and infra-clavicular regions, presenting a well-marked bruit, distensile pulsation, and thrill. There was well-marked difference of the pulse in the right and left arms. The artery was ligated by catgut applied close to the outer side of the scalenus anticus muscle; the patient left the hospital 23 days after the operation, and resumed his ordinary occupation, which he has filled since without any return of symptoms.

Mr. ARTHUR CHANCE exhibited a man, aged 33 years, whose Popliteal Artery had been Ligatured for Aneurysm. He had suffered from syphilis. His work entailed the lifting of very heavy weights. Early in May last he noticed a dull pain at the back of his right knee. There was no noticeable swelling at the time but it came on afterwards. On June 12th he was admitted to the Mater Misericordiæ Hospital, where he was found to have in his right popliteal space a tumour of about the size of a Tangerine orange which showed all the classical signs of aneurysm The right foot was much swollen and œdematous. On June 21st the artery was exposed at its upper part by an incision parallel to the adductor magnus. The hamstring tendons were drawn backwards, the artery tied with silk, and the wound closed. There was no pain or rise of temperature and the wound healed by first intention. It was now six months since he had returned to his work and there was no sign of trouble in the aneurysm. Mr. Chance tied the popliteal artery—first, because the man's foot was very œdematous and it was necessary to choose the method which would best establish the collateral circulation; secondly, because the man was young; and, thirdly, because he was occupied in exceptionally heavy work. There was a considerable distance between the aneurysm and the ligature.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

A meeting was held on Feb. 2nd, Dr. J. B. Ball, the President, being in the chair.—Mr. Alfred Cooper, in opening a discussion on the Treatment of Primary and Secondary Syphilis, said that before the surgeon treated primary syphilis he must be very careful of the diagnosis of the sore, as many cases were met with in which induration was of an inflammatory nature, frequently due to the application of irritating substances. In considering the treatment of the sore the question as to whether abortives were useful or not was one of considerable importance. He placed no reliance whatever either in excising the indurated sore or in attempting to destroy it by any cauterant. The induration was the result of a previous and complete contamination of the system. It was now an established fact that mercury was the best agent to be relied upon for treating the indurated sore and its use should be commenced as soon as the diagnosis was made. The application to local sores should be, he thought, blackwash or equal parts of mercurial ointment and vaseline. They might get a sore running into phagedæna, when it would be unwise to use any mercury at all. In that case the local treatment would consist of putting the patient into a hot bath until the sore assumed a healthy character. He had seen the most serious results occur when mercury had been given. It was of great importance that the mercurial treatment should be carried out thoroughly and systematically. It had been stated by Dr. Gowers that syphilis was incurable, but he did not agree with that dictum. It was a matter of great difficulty to tell when a patient was cured, but they could speak with greater confidence if they had seen that a long and efficient course of mercury had been undergone. There were numerous methods by which mercury could be introduced into the system. He had found tannate of mercury to possess great advantages over other drugs. It was quickly absorbed and quickly eliminated and it did not produce stomatitis to such a degree as other preparations of mercury. It could be given in doses of from one to two grains in the form of pills three times a day. Treatment should be continued for two years. He had found intra-muscular injections of mercury most successful. Since 1894 he had used injections of sozoiodol of mercury (one eighth of a grain) once a week with great success. Patients were being treated at the Lock Hospital at the present time by intravenous injections of mercury. The treatment was originally suggested by Baccelli in 1893. Cyanide of mercury was considered the best preparation to use; it was considered to have immediate effect on the syphilitic lesions, a chancre often showing signs of healing within 24 hours. Mercurial baths had of late years fallen into disuse. Regularity of living and abstinence from alcohol were of great importance. If a stimulant were

necessary he allowed a light beer, claret, or Moselle.—Mr. Swinford Edwards pointed out the difficulties in the early diagnosis of syphilitic sores and said that they must be content to keep doubtful cases under observation until the doubt was cleared up. At the same time it was very important to begin mercurial treatment at the earliest possible moment. In the treatment of primary and secondary syphilis he was a believer in small doses of mercury continued over long periods. When mercury upset the gastro-intestinal canal intra-muscular injections of sozoiodol of mercury were of great use. The worst subjects for syphilis were the alcoholic and tuberculous and in both classes treatment must be modified to suit the particular case.—Dr. J. A. Shaw-Mackenzie thought that the physician could not be accused of trespassing on the ground of the surgeon, because before the days of Hunter few or no surgeons had written on the subject of syphilis, and in the reign of Queen Elizabeth surgeons who meddled with such cases were liable to prosecution by the College of Physicians unless they were members of the Apothecaries' Company. He did not think it possible to separate the pathology of syphilis from its treatment. Every grade of syphilitic severity was met with, and the causes of aggravation as well as of mitigation were many, apart from this or that particular method of treatment. Many suppurative sores and chronic discharges in both sexes were of syphilitic origin, more quickly cured by modified mercurial treatment; which cases with pelvic trouble in the woman, if recognised and treated accordingly, would probably never reach the knife of the operating gynæcologist. He thought that the external methods of administration of mercury better fulfilled the theories of the elimination of the virus through the skin, phagocytosis and leucocytosis, apparently underlying natural cure; and from long association with the late Mr. Henry Lee he advocated the method of calomel fumigation.—Dr. Phineas Abraham said that there was great difficulty in persuading patients to continue treatment for a sufficiently long period; he suggested, therefore, that arrangements might be made for the reception of syphilitic patients into sanatoria where they could be properly watched and treated. He used small doses of mercury with chalk with compound powder of ipecacuanha given frequently for at least a year, with mild mercurial ointments for the cutaneous manifestations.—Mr. McAdam Eccles said that in addition to the mercurial treatment it was very necessary for the patient to have the best hygienic surroundings—fresh air, good food, and warm clothing—and to avoid alcohol. He agreed, therefore, with Dr. Abraham that the treatment of the affection in sanatoria might become a factor of considerable importance.—Mr. L. A. Bidwell gave a brief account of continental methods of treating syphilis, particularly as practised at Aix-la-Chapelle.—The discussion was continued by Mr. Herbert Paterson, Mr. Rickard Lloyd, Mr. C. R. B. Keetley, Mr. G. E. Twynam, Mr. H. De Méric, Dr. Rayner Batten, Mr. A. R. S. Douglas, Mr. Percy Dunn, and Mr. Alfred Cooper.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 16th, Mr. W. Horrocks, the President, being in the chair.—Dr. F. W. Eurich gave a microscopical demonstration illustrating Epitheliomata.—Dr. James Kerr communicated a paper on Inflamed Corneal Ulcers and showed illustrative preparations, together with the record of 100 cases treated by operation. The disease was most common in dusty weather and in people following dusty occupations. It was frequently traumatic in origin. Workers in soil and stone were the most frequent sufferers. Its incidence increased rapidly with age after 35 years. The spreading serpiginous ulceration, which was the most serious form, was due to pneumococci, which were confined to the cornea, the deep symptoms being due to the toxins produced. The galvano-cautery and paracentesis were held to be the best treatment, while scraping of the ulcer was not advised. Great importance was attached to early diagnosis and energetic treatment.—Dr. H. C. Major related a case of Trance which had a fatal termination. The patient was a woman, aged 50 years, and was seen in consultation with Dr. G. H. Moorhead. She lay almost as one dead; there was intense pallor of the skin and the muscles were relaxed. The respirations were exceedingly shallow and the heart's impulse was very weak. The conjunctival and other reflexes were absent and she could not be roused to show any evidence of consciousness. The onset had been rather sudden three days previously; there were at first some transient spasmodic movements of the limbs. She continued in this state for about three weeks and finally died from exhaustion. She had been fed artificially by enemata and by the nasal tube. Physical examination was negative. The optic discs were normal. Post-mortem examination revealed nothing except anæmia of the nervous system and organs generally. The case was diagnosed as one of death trance—a very rare affection. The symptoms appeared to depend on profound functional inhibition of the nerve-centres. As regards diagnosis, uræmia, diabetic coma, cerebral tumour, and hæmorrhage must be eliminated, but a case of trance declared itself in a short time. Practical considerations in the treatment of such a case were: examination of urine for albumin and sugar to exclude uræmic and diabetic coma, regular nasal feeding, the administration of amyl nitrite, and the injection of normal saline either into cellular tissue or the rectum. Faradaisation of the surface of the dry skin with electric brush was worthy of trial. Should death appear to take place they must be exceedingly careful before allowing anyone to act on that supposition. It was an acknowledged fact that patients had almost been put into their coffins while in a condition of trance. The faradaic current should be applied to the muscles. Muscular contractions ceased three hours after death (care must be taken to see that the current employed would cause contractions of normal muscles). A case was recorded by Rosenthal in which, 33 hours after apparent death, the muscles continued to react to faradaism; and 44 hours after the patient awaked.—Dr. H. J. Campbell mentioned a case in which the patient had twice been put into her coffin and subsequently recovered.—Mr. J. B. Hall and Dr. J. H. Bell made remarks and Dr. Major replied.—Dr. Mitchell showed a specimen from, and read notes on, a case of Ectopic Gestation. The patient was a married woman, aged 38 years. She had menstruated ten days before being seen. She had suffered from indigestion for six weeks. The pulse was 80 and the temperature was 98·8° F. The illness commenced on August 6th with severe pain and vomiting; it was thought to be a case of autumnal gastro-enteritis. The legs were extended and the abdomen was tympanitic. The next day the distension had increased and there was no pain or vomiting. The bowels were not moved. The temperature was 101° and the pulse was 88. On the 9th the patient was much worse and there was coffee-ground vomit. On the 10th the pulse was 104; there was no pain, but the patient was pallid and there was doubtful dulness in the flanks on percussion. On the 11th the pulse was uncountable and the pallor had increased. Hæmorrhage was diagnosed and the patient died before anything could be done. At the post-mortem examination the whole peritoneal cavity seemed to be filled with blood.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 8th, Dr. W. J. Smyly, the President, being in the chair.—Dr. Arthur Giles showed a specimen of Myomatous Uterus removed from a patient with Glycosuria. Hysterectomy was performed on account of menorrhagia and pressure symptoms; and as she suffered also from umbilical hernia a radical cure was performed at the same time. Glycosuria was first noticed about a week before the operation; on previous occasions when the urine had been examined no sugar was present. The patient was a stout florid woman, aged 44 years; she had neither thirst nor polyuria and diabetes could therefore be excluded. The recent appearance of sugar in the urine rendered it unlikely to be due to pressure from the myoma, as might sometimes happen with ovarian tumours, and Dr. Giles believed it to be of nervous origin in this case. The patient made an uninterrupted recovery and the case was important as showing that functional glycosuria was not a contra-indication to such a grave operation as hysterectomy.—In the discussion on this specimen remarks were made by Dr. Travers, Dr. Macnaughton Jones, Dr. Heywood Smith, Dr. W. H. Bourke, Dr. Inglis Parsons, and Professor Japp Sinclair.—Dr. F. A. Purcell showed (1) a large Pyosalpinx, together with Uterus, removed by Sub-peritoneal Hysterectomy; and (2) a Fibro-myoma of Unusual Shape springing from the Uterine Fundus; it was a sausage-shaped mass ten inches long and of the thickness of a man's wrist; in its fresh state it resembled a stunted cactus plant.—Remarks in discussion were made by Professor Japp Sinclair, Mr. Furneaux Jordan, Dr. Macnaughton Jones, Dr. Inglis Parsons, and the President.—Dr. F. Winson Ramsay read the notes

of a case of Chronic Tubal Inversion of the Uterus. The patient was aged 48 years; three days after the birth of her last child, 14 years previously, she had castor oil, and while on the bed-pan the uterus came down into the pan. The medical man came within three-quarters of an hour and pushed it back into the vagina. From that day she had always had a slight bloody discharge. After 12 months she consulted a medical man who introduced a pessary, which she took out once a week for cleaning. In March, 1898, a larger pessary was given her, and as she had pain in the back and bearing down she was told not to take it out so often. In May, 1898, she noticed that urine was always running from her. In the following September she was unable to remove the pessary and it had to be taken out in pieces under chloroform; urine then ran away more than ever. Examination revealed at once a completely inverted uterus not much larger then a normal uterus and covered with stinking slime and phosphates; the base of the bladder was completely gone, exposing the fundus, and the edges were composed of a ring of dense cicatricial tissue. After rendering as aseptic as possible, the uterus was removed with scissors on Jan. 3rd, 1899; operations for closing the fistula were performed on six occasions up to August of last year. She was now quite well, could do her work, could hold her urine for three hours during the day and had not to get up at night.—Dr. Clement Godson thought the best treatment had been adopted in this case; in view of the vesico-vaginal fistula it would have been useless to try to restore the uterus. Otherwise it might have been attempted by means of an Aveling's repositor, for this could sometimes be effected when an inversion had existed for many years. A Zwancke's pessary should never be allowed to remain *in situ* for any length of time, but should be removed every night and replaced in the morning.—Dr. Macnaughton Jones congratulated Dr. Ramsay on the method adopted in closing the fistula. It was the plan first suggested by Dittell and adopted by Howard Kelly of transplanting part of the vagina into the bladder. There could be no doubt as to the propriety of removing the uterus in such a case.—Professor Japp Sinclair related a case in which he found a vesico-vaginal fistula in a patient who gave a history of forceps delivery. There was considerable loss of tissue and it seemed to him that the only thing to do was to turn the uterus itself into the bladder. This he did and the patient went on menstruating through the bladder without any inconvenience. This showed that the surface of the uterus as well as that of the vagina need cause no bad results when turned into the bladder.—After some observations by Dr. J. Oliver Dr. Ramsay replied.—The President then delivered his Inaugural Address in which he dealt firstly with the question of the practical teaching of Obstetrics and Gynæcology, and secondly with the subject of the Registration of Midwives.—On the motion of Dr. Macnaughton Jones, seconded by Dr. C. H. F. Routh, a hearty vote of thanks was accorded to the President for his address which he was requested to allow to be printed in the Transactions of the society.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 1st, the President, Dr. D. Burgess, being in the chair.—The President showed the following cases: (1) A boy with Pseudo-Hypertrophic Paralysis; (2) a woman with Argyria; and (3) a case of Cerebellar Ataxia of over a Year's Duration. There were no optic neuritis, no headache, no vomiting, and no evidence of syphilis or tuberculosis.—Dr. Arthur Hall showed a severe case of Tertiary Syphilitic Ulceration affecting the Left Orbital and Nasal Region. The patient had acquired syphilis whilst in the army and had only received six weeks' treatment after the primary infection.—Dr. Sinclair White showed the following cases: 1. A man, aged 54 years, on whom he had performed Suprapubic Prostatectomy for Marked Enlargement of the Middle Lobe of the Prostate with Vesical Calculi. The bladder, which had been in a state of atony for several years, had recovered its tone and the patient was greatly benefited by the operation. 2. Four cases of Resection of the Large Intestine for Cancer. In one case the disease involved the cæcum. In the other three it was situated in the sigmoid and one of the latter was suffering from acute intestinal obstruction and resection was preceded by making a temporary artificial anus above the growth. In all of the four cases a Murphy's button was employed and they all made a good recovery. One patient was only 29 years of age. 3. A Myomatous Uterus removed Abdominally with Vaginal Drainage. The patient made a good recovery notwithstanding a hernia of the small intestine through the abdominal wound which was relieved on the third day.—Mr. A. M. Connell showed the following cases illustrating conservative surgery of bone: 1. A lad, aged 18 years, who had had his Left Hand caught in a Hay-chopper, the proximal phalanges of the four fingers being divided and the fingers hanging by the flexor tendons and the tissues of the palmar surface. The phalanges were drilled and brought together with silkworm-gut sutures and the wounds had quite healed on the eighth day. The patient had now a good grip, with unimpaired extension, but flexion was limited. 2. A man, aged 32 years, who had a Compound Comminuted Fracture of the Upper Fourth of the Left Tibia involving the Knee-joint. Some loose pieces of bone were removed and a large wedge-shaped part carrying the internal tuberosity was wired to the shaft. Three subsequent operations for small fragments of bone were performed. The result was a perfect movement of the joint, though the limb was somewhat bowed owing to the dropping of the internal tuberosity. The patient had resumed work a year after the operation. 3. Comminuted Fracture of the Left Clavicle in a man. Attempts at reduction being futile two silver-wire bracelets were passed round the fragments, the ends of the wire were bent down on to the bone and interlocked, and the periosteum was united over these. The wound was dressed on the eighth day and the stitches were removed. The result was gratifying, as the position was good and all the movements at the shoulder were normal.—Professor C. F. Myers-Ward demonstrated the most modern and approved forms of Kymograph, Artificial Respiration Apparatus, Volumetric Apparatus, and other Physiological Accessories.

OBSTETRICAL SOCIETY OF LONDON.—The annual meeting of this society was held on Feb. 7th, Mr. Alban Doran, the President, being in the chair.—The reports of the treasurer, the honorary librarian, and the chairman of the Board for the Examination of Midwives were received, adopted, and ordered to be printed in the next volume of the Transactions.—Sir William Overend Priestley and Dr. James R. Chadwick were elected honorary Fellows of the society.—Votes of thanks were passed to the retiring vice-president, members of council, honorary secretary, and honorary librarian.—The President then delivered the Annual Address, including the usual review of the work of the past year. During 1899 the society lost ten ordinary Fellows, but none on the honorary list. Obituary notices of the ten deceased Fellows were then read; the list included one original Fellow, Dr. J. A. Duncan of Covent Garden; Mr. Lawson Tait, on whose work the President dwelt at some length; Mr. G. F. Farr of Kennington and Dr. J. M. Bright of Forest Hill, who both died on Jan. 11th; Mr. W. R. Dambrill-Davies, once assistant to Dr. Clay of Manchester; Mr. Clement Pound of Odiham, Hants; Dr. A. T. Gibbings of Dalston; Dr. T. Cargill Nesham, Lecturer on Midwifery at the University of Durham College of Medicine, Newcastle; Dr. Samuel Johnson of Stoke-on-Trent; and Dr. James Ford of Eltham. The officers and other members of council were appointed for the year 1900 as follows:—President: Mr. Alban Doran. Vice-Presidents: Dr. John W. Byers, Dr. William Radford Dakin, Dr. John Phillips, and Dr. Jamieson Boyd Hurry. Treasurer: Dr. James Watt Black. Chairman of the Board for the Examination of Midwives: Dr. Percy Boulton. Honorary Secretaries: Dr. Herbert R. Spencer and Dr. Amand Routh. Honorary Librarian: Dr. Montagu Handfield-Jones. Other members of Council: Dr. Augustus W. Addinsell, Dr. A. H. Freeland Barbour, Dr. George Francis Blacker, Dr. Robert Boxall, Dr. Francis Henry Champneys, Dr. Thomas Vincent Dickinson, Dr. Angus Fraser, Dr. Arthur Edward Giles, Dr. George Ernest Herman, Dr. Thomas Robert Lombe, Dr. John Dysart McCaw, Dr. Ewen John Maclean, Dr. Hugh James Moore Playfair, Dr. William Loudon Reid, Dr. George H. Drummond Robinson, Dr. William Japp Sinclair, Dr. Arthur Francis Stabb, and Mr. John William Taylor. The following specimens were exhibited:—Dr. Amand Routh: Conjoined Twins.—Dr. W. S. A. Griffith: Cancer of the Ovary.—Mr. Cuthbert Lockyer: Intra-ligamentary Oöphoritic Cystoma.

NEWCASTLE-UPON-TYNE CLINICAL SOCIETY.—A meeting of this society was held on Feb. 1st, Mr. H. B. Angus, the President, being in the chair.—Dr. A. H. Hobbs showed a female suffering from Focus-tube Dermatitis. Her knee had been subjected to x ray examination six months

ago for loose body in the joint; 16 days later the skin which had been most exposed to the rays developed an inflammatory condition, and in from three to four weeks a well-marked bulla appeared. An ulcer which was intractable to treatment resulted and was still present.—Mr. George Foggin discussed at some length the five different views set forth as the possible causation of the condition.—Dr. W. Martin stated that he had now employed the x rays in 200 cases, and this was the first case in which untoward symptoms had arisen.—The President, who is in charge of the x ray department at the Newcastle Royal Infirmary, had only seen one case in his practice.—Mr. T. G. Ouston showed a child, aged five months, with Spina Bifida. The tumour was of the size of a fœtal head, entirely covered with skin and translucent except just beside the spine. There was no paralysis, and he considered that the general and local condition of the child warranted the performance of excision.—Dr. T. Beattie urged that the argument against operation in a case of spina bifida should be an increase in its size out of proportion to the size of the child.—Dr. R. P. R. Lyle delivered an address on the Use of Midwifery Forceps. He strongly deprecated the too frequent use of forceps and considered 2 per cent. an ample average. No pains should be spared by the obstetrician to avoid their use by a careful management of the first and second stages of labour. If forceps were inevitable the easiest and safest operations should be aimed at. He considered turning preferable to the high operation. More care should be exercised to preserve the child's life. Forceps should not be applied to the breech or the after-coming head.—A discussion ensued in which the President, Dr. Hobbs, Mr. Ouston, Mr. Foggin, Dr. Campbell, Dr. Beattie, and Dr. W. E. Alderson took part.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 24th, Mr. Alexander Miller, the President, being in the chair.—Dr. J. Lindsay showed the Fœtus and Decidua of a Tiger, of a large Fruit-Eating Bat, and of a Marmoset.—Dr. J. Edgar showed a Ruptured Hæmatoma of the Left Ovary, the cause of a Pelvic Hæmatocele.—Dr. Alexander MacLennan read a paper on the Involution of the Puerperal Uterus. The following points were noted: (1) the method of measuring and the precautions required to avoid fallacies; (2) the physiological circumstances influencing involution, such as age, parity, lactation, time of taking measurements, posture, &c.; (3) the pathological lesions affecting involutions with charts to demonstrate the various conditions; and (4) diagnosis, treatment, and prognosis. (*a*) Diagnosis: the observations of involution aided in separating minor from major cases of fever and were especially careful in differentiating the minor cases; (*b*) treatment: the measurements of the uterus gave indications for the administration of ecbolics or cathartics, the intra-uterine douche, &c.; and (*c*) the prognosis.—Dr. W. L. Reid showed the child from his case of Ectopic Pregnancy and read some part of his paper. He considered especially the question whether it was really a case of interstitial pregnancy. The points he laid special stress upon were the size of the empty uterine cavity, which was large even for an extra-uterine pregnancy, and the bulging into the cavity of the antero-lateral wall of the organ.—Dr. R. Jardine read notes of Three Fatal Cases of Puerperal Septicæmia of Unusual Origin. The first case was a woman who while pregnant poisoned her finger with a splinter of wood. The second case was a woman admitted to the Maternity Hospital moribund. She had been in labour for five days and was septic to the last degree. A dirty old woman had been looking after her. The third was a case where infection had occurred from an old retro-peritoneal abscess.

CARDIFF MEDICAL SOCIETY.—The ordinary monthly meeting of this society was held on Feb. 2nd, Dr. P. Rhys Griffiths, the President, being in the chair.—The minutes of the last meeting having been read and confirmed, Dr. John Williams showed three specimens and two drawings of Solid Tumours of the Ovary, varying in weight from two to four pounds, removed by laparotomy. Four of the tumours were associated with well-marked ascites, were malignant, and were removed from patients ranging in age from 19 years to 66 years, and the fifth, a solid fibroma, unassociated with dropsy, was removed from a patient aged 39 years. Dr. Williams also exhibited a drawing of a small Papillomatous Cyst springing from the oöphoron with a thick deposit of secondary sprouting papillæ over the pelvic peritoneum. This was removed from a patient, aged 60 years, and was associated with ascites.—Mr. E. T. Collins made some remarks.—Dr. A. P. Fiddian described a case of Pediculi Palpebrarum and showed the specimen, commenting upon the rarity of the condition.—Mr. E. T. Collins showed a large Nodular Uterine Fibroid removed by Pan-Hysterectomy. The tumour was in part impacted in Douglas's pouch and had contracted extensive adhesions with the intestine. The patient made a good recovery.—Mr. William Sheen showed a series of lantern slides to illustrate the Topographical Anatomy of the Mastoid Antrum and the operations connected with it. The anatomical details underlying the various complications of antral disease were briefly outlined.—Dr. D. R. Paterson called attention to the importance of the persistence of the fœtal petro-squamous sinus in determining the route of the infective process.—The President and Mr. Cornelius Griffiths also made some remarks and Mr. William Sheen replied.

FOLKESTONE MEDICAL SOCIETY.—A meeting of this society was held on Feb. 2nd, Dr. W. J. Tyson, the President, being in the chair.—Dr. Hoggan Ewart read a paper on Patent and Quack Remedies. A quack was defined as "a boastful pretender to knowledge which he did not possess." Patent medicines were almost always a financial failure whilst proprietary ones were not. In the former the ingredients were known, whilst in the latter they were not. The authority of the Queen's Patent gave a false impression to the ignorant and Government protected the privilege of proprietors of quack medicines by paying for the prosecution of infringements.—The society passed the following two resolutions unanimously: "1. That this society is of opinion that the use of patent and proprietary medicines is largely on the increase and is a public danger. 2. That the unrestricted sale of powerful drugs, such as hypnotics and antipyretics, in tablet form is largely on the increase and is a public danger."

NEUROLOGICAL SOCIETY.—The annual meeting of this society was held on Feb. 8th.—The following were elected officers for the ensuing year:—President: Dr. Augustus Waller. Vice-Presidents: Dr. W. Julius Mickle and Mr. Herbert William Page. Council: Mr. C. A. Ballance, Dr. W. H. Gaskell, Mr. R. Marcus Gunn, Dr. Henry Head, Dr. B. Lees, Dr. C. Mercier, Dr. F. W. Mott, Sir Felix Semon, Dr. James Taylor, and Dr. W. Hale White. Treasurer: Dr. Charles E. Beevor. Editor (*ex-officio*): Dr. A. de Watteville. Secretaries: Dr. J. S. Risien Russell and Dr. W. S. Colman.—Dr. A. Waller delivered his Presidential Address on the Excitability of Nervous Matter, with special reference to the Retina, which was illustrated by numerous tracings and diagrams.—A vote of thanks to the President for his address was moved by Sir William Broadbent, F.R.S., and seconded by Dr. C. S. Sherrington, F.R.S.

Reviews and Notices of Books.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D. Cantab., LL.D. Glasg., D.Sc. Vict., F.R.C.P. Lond., F.R.S., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College. Vol. VIII. London: Macmillan and Co. 1899. Pp. 998. Price 25*s.* net.

THIS is the concluding volume of this excellent System of Medicine and is devoted chiefly to mental diseases and diseases of the skin, but it contains also a few of the less easily classified affections of the nervous system. The first article is on Craft Palsies by Dr. G. V. Poore. Of all the paralyses belonging to this class more than 90 per cent. are cases of writer's cramp, partly perhaps because this form of movement is specially prone to lead to this condition, but chiefly on account of the fact that the occupation of clerk outnumbers all other occupations in which special neuroses are apt to occur. Dr. Poore has only seen two cases which could fairly be regarded as examples of "telegraphist's cramp," and both of these were in all probability cerebral in origin. In the case also of "hephæstic palsy" occurring in those who wield light hammers for forging nails or penknife blades the author believes that the fatigue is cerebral rather

than muscular. For the prevention of writer's cramp Dr. Poore advises that children should be trained to a certain degree of ambidextry and that our strokes in writing should be vertical rather than oblique. The typewriter is recommended for the use of those who suffer from writer's cramp, but this instrument is not applicable to bookkeeping.

Professor J. Chiene, in an account of Spasmodic Torticollis, thinks that the disease is probably central in origin and that neurectomy of the spinal accessory nerve is the best treatment in ordinary cases, but that as a last resource in severe cases a portion of the motor area of the cerebral cortex may be excised.

The articles on Facial Spasm and on Tetany are from the pen of Dr. Risien Russell, and the latter paper has a very useful bibliography in which the references are classified according to the chief topics dealt with. Dr. J. A. Ormerod's paper on Hysteria is a valuable account of this troublesome disease; he does not appear to be inclined to accept the results of the researches of Gilles de la Tourette on the alteration in the composition of the urine after hysterical attacks.

Dr. P. Manson gives an interesting description of Latah, a somewhat obscure disease met with in the Malay Peninsula and in Java. The patient is in a condition like that of a man under the influence of hypnotism and will say words and do actions on the suggestion of others. Dr. Manson considers latah to be related to various psychopathies, such as the "ikota" of the Samoyeds, and as allied to the curious epidemics of religious ecstasy which were met with so widely in the Middle Ages.

The late Dr. Hack Tuke has contributed a short article on Catalepsy in which he states that no definite knowledge of the pathology of the condition has yet been gained.

It has been customary to look upon neurasthenia as a special product of the high civilisation of our own times, but, as Professor Clifford Allbutt points out in his article on this subject, its prevalence throughout the world is an indication that it is no modern invention. His description of the disease is ably supplemented by an account by Mr. Victor Horsley of the traumatic variety which is so often of importance in medico-legal cases. Mr. Horsley very emphatically says that no case of traumatic neurasthenia "can be expected to end in recovery if the symptoms be severely marked unless treated by the Weir-Mitchell method."

In editing the section on Mental Diseases Professor Clifford Allbutt has had the assistance of Dr. G. H. Savage. All parts of this section are so good that it is somewhat difficult to select any portion for special commendation, but we may perhaps mention the article on Vice, Crime, and Insanity, by Dr. C. A. Mercier. Dr. Leonard Guthrie's article on Night Terror, Symptomatic and Idiopathic, with Associated Disorders in Children, is also very good.

Sir John Batty Tuke's account of the General Treatment of the Insanities deserves to be specially mentioned. Dr. J. Milne Bramwell has contributed a description of the Use of Hypnotism in the Treatment of Insanity and Allied Disorders. He considers that "the question whether insanity in its graver forms can be cured by hypnotism must still be regarded as an open one." Dr. Bramwell has himself attempted to employ hypnotic suggestion in six cases of undoubted insanity; in five he failed to produce hypnosis, while in the sixth, although sleep was produced and the pain of an organic malady was relieved, yet the suggestions were entirely without effect upon delusions of persecution which had existed for many years.

Mr. C. T. Dent has a short article on the Insanity which may Follow Operations and he points out that operational insanity must be distinguished from that due to the anæsthetic, the latter coming on at once, while in the former there is a clear interval. The nature of the operation has little to do with the occurrence of the insanity, and although it occurs more commonly after operations of magnitude yet it has appeared even after tenotomy. The treatment advised is to feed the patient well; at the same time, if drugs such as iodoform are being employed they should be discontinued.

Almost half the book is occupied by an account of the Diseases of the Skin and this portion has been edited with the help of Dr. J. F. Payne. The subject has been divided among a large number of contributors. Dr. Colcott Fox deals with Erythema in its various forms and Urticaria, especially good being the account of Erythema Multiforme. Dr. Payne has written the article on Eczema, and in discussing the etiology he points out that traumatism must be considered an undoubted cause of eczema, for artificial dermatitis, which is first excited, is prone to be followed by the appearance of the same lesion in another limb, and no one could refuse to give the name "eczema" to the secondary eruption. Dr. Stephen Mackenzie is responsible for the account of Exfoliative Dermatitis and it is a most accurate reflex of the current opinion on this interesting disease.

Dr. H. G. Brooke has written the article on Psoriasis, and after an able and clear discussion of its etiology he tells us that he is inclined to believe that the neuro-vascular factor is primary, but that there is a secondary local bacterial cause which is essential to the full manifestations of the lesions. A very good description of Herpes Zoster is supplied by Dr. Henry Head, with an instructive chart which illustrates the age incidence of the disease, but it would have been even more instructive if it had been constructed to show the frequency of the cases in proportion to persons living at the several ages; this could have been easily effected by the use of curved abscissæ. The diagrams which illustrate the distribution of the various nerve roots are valuable, as the affected patches correspond to nerve roots and not to individual nerves.

Dr. J. J. Pringle has contributed the account of Ichthyosis; it is most carefully written, but we are inclined to dissent from the statement that cases appearing for the first time after childhood cannot be accepted as examples of ichthyosis.

The only other articles which require to be mentioned are those on the Vegetable Parasites, by Mr. Malcolm Morris; on the Diseases of the Hair, by Dr. H. R. Crocker; and on the Bacteria of the Skin, by Dr. J. Galloway. Mr. Morris's paper is illustrated and a few other dermatological diagrams are given, but no attempt is made—and rightly, we think—to illustrate the diseases of the skin.

An Appendix on Recent Progress in our Knowledge of Malaria concludes the volume. The index contains references to the whole work, but is chiefly intended to refer the reader to the volume containing the information which he seeks; he should then consult the more detailed index of that volume.

This, as we have mentioned already, is the concluding instalment of this System of Medicine and in reviewing it we cannot refrain from speaking once more of the very high character of the work. No such treatise on medicine has appeared since Reynolds's System and it may without danger of contradiction be said to be a worthy exposition of the present state of medicine in the United Kingdom.

The Myology of the Pelvic Floor: A Contribution to Human and Comparative Anatomy. By PETER THOMPSON, M.D. Vict., Senior Demonstrator of Anatomy in the Owens College, Manchester. London: McCorquodale and Co. 1899. Pp. 108. Price 5*s*.

THIS excellent work on the muscles of the pelvic floor is illustrated by 24 figures taken, not only from the human subject, but from dissections on monotremes, marsupials, edentates, ungulates, rodents, carnivores, insectivores,

cheiroptera, and primates, so that it is a most valuable addition to our few detailed works on the development and morphology of the pelvic human structures. There is a well-marked difference between the pelvic floor of most mammals and that of the human subject. In the former the weight of the abdominal viscera is largely borne by the ventral wall of the abdomen, whilst in man this weight is sustained mainly by the floor of the pelvis owing to the erect posture compelling special modifications which are unnecessary in animals in which the long axis of the body is horizontal. In mammals generally the pelvic floor is mainly muscular and is specially arranged for closing the clefts through which the rectal and genito-urinary canals pass, and is but little adapted for the support of weight, but as the body becomes absolutely or approximately vertical a distinct muscular pelvic diaphragm is developed in addition to the fibres controlling the clefts for the viscera. These layers are not only functionally but morphologically different in their development. The muscles of the "pelvic diaphragm" in man and the anthropoid apes are derived from the flexors and abductors of the caudal extremity of the vertebral column passing forward in a horseshoe shape to the pubes and encircling the rectum posteriorly. As the upright posture is assumed the number of caudal vertebræ diminishes and the muscles are thus adaptable for other functions. The sphincter muscles are derived from the sphincter cloacæ, and in man they are developed into two layers, one of which includes the superficial perineal muscles and the other those between the layers of the triangular ligament. The superficial perineal muscles are the sphincter ani externus, the transversus perinæi superficialis, the bulbo-cavernosus, and the ischio-cavernosus, whilst the deep-set include the constrictor urethræ, the transversus perinæi profundus, and the ischio-pubicus. The pelvic diaphragm is formed by the coccygei and levatores ani. These muscles are all thoroughly described and most clearly depicted in Dr. Thompson's monograph. We have read with pleasure this admirable piece of work in what is now in Great Britain almost a deserted scientific field and we wish that there were more workers on similar lines. The book is well got up and capitally illustrated.

Cure Prompte et Radicale de la Syphilis. Par le Dr. J. F. LARRIEN. (*Prompt and Radical Cure of Syphilis.* By Dr. J. F. LARRIEN.) Paris: Société d'Éditions Scientifiques. Pp. 131. 1899. Price 4 francs.

THE author of this brochure objects to the use of mercury but not intemperately so. He holds that mercury is injurious when administered internally, as far as the actual cure of the disease is concerned, although he admits its power of suppressing or temporarily removing secondary manifestations. He uses it externally to save time, either in the form of sublimate baths when the eruption is extensive or applied locally to skin lesions in the form of three parts of white precipitate to 30 of glycerine of starch, or he may use a gargle or mouth-wash of 1 in 10,000. In severe cases with eye or other threatening symptoms he uses mercurial inunctions for from five to 10 days as the treatment on which he usually relies is not sufficiently rapid in its action for such cases. This is as follows, whatever may be the stage or duration of the disease. He gives every morning a quarter of an hour before breakfast in a little sugared water three minims of tincture of iodine of recent preparation and a tablespoonful of a solution of iodide of sodium in distilled water containing 15 grains in each dose. This is taken for from 15 to 20 days in each month for from five to eight months. On the remaining days of each month no medicine is given, except in malignant forms when he gives tonics. He never exceeds the specified dose, for although sometimes the immediate result may be better it is never lasting. General hygienic measures and judicious hydrotherapy may be simultaneously employed.

The author maintains that there are no contra-indications for this treatment, and that it is especially good in the prodromic period, when symptoms disappear in three days, and it prevents secondary eruptions. If roseola is already present it is effaced in three or four days; general papular eruptions and condylomata disappear under local mercurial applications in from three to eight days. Continuing the internal treatment the manifestations are reduced to a few mucous plaques which may recur for from three to six months and that will be all. The treatment should be prolonged for two months after the disappearance of symptoms which in a previously healthy subject would have lasted for from six to eight months; even in chronic alcoholics treatment is rarely required for more than a year. For cases in which no treatment has been adopted for a long time or where mercury has been given (!) it is prudent to give the iodine treatment for two or three months in the second year. Even palmar psoriasis and recurrent tongue erosions will not resist this iodine treatment, which is also excellent for the anæmia of the early stage.

The author brings forward many quotations, arguments, and cases in support of his propositions, and since those who have had the most extensive experience will have to admit that while it is generally easy to remove the symptoms of syphilis in many cases the most experienced practitioners fail to procure a definite immunity from their recurrence, it is worth while to test the author's method, without prejudice, as there is nothing irrational in the plan itself, the most prejudicial statement being that it is *always* successful.

LIBRARY TABLE.

The Pharmacopœia of Guy's Hospital. Compiled by the Committee of the Staff. London: H. H. G. Grattan. 1899. Pp. 222.—It has been the custom to publish the Guy's Hospital Pharmacopœia since 1791, but obviously from that time onward a great number of changes have been made. The present little work, the size of which makes it suitable as a pocket-book, represents the ninth issue. To make the book more useful to students the present edition includes the British Pharmacopœia of 1898 so far as it is necessary to be known for the purpose of prescribing. Useful chapters have been added on the preparation of invalid foods, clinical tests, poisons, antidotes, and treatment. This little work has been published at an opportune time and its contents will be consulted with advantage.

Merck's Manual of the Materia Medica. Darmstadt: E. Merck. 1899. Pp. 236.—Free copies of this manual may be had on application by medical men to 16, Jewry-street, London, E.C. It forms a very useful pocket-book of reference and contains a terse account of drugs, including synthetics and other remedies which have recently been introduced in great number. It contains a summary of therapeutic indications in addition and a classification of medicaments. It has evidently been compiled with considerable trouble and care so as to form a reliable guide to the practitioner in regard more particularly to modern chemicals and drugs.

Aids to the Analysis of Food and Drugs. By T. H. PEARMAIN and C. G. MOOR, M.A., F.C.S., F.I.C. Second edition. London: Baillière, Tindall, and Cox. 1899.—This little work is useful as an accurate guide for rapid work in connexion with the analysis of samples taken under the Food and Drugs Act. It is to the analyst what, so to speak, the "aid" book is to the student contemplating examination. The processes described are evidently based on the authors' experiences and should be easily followed from the clearness

of the details given. A chapter is added on the Analysis of Urine which is followed by a few notes on the British Pharmacopœia, 1898. For the methods of simple analysis of foods with the view to the detection of adulteration the book may be consulted with confidence, but for more extended inquiry more advanced works would be necessary.

Synopsis of the British Pharmacopœia, 1898. Compiled by H. WIPPELL GADD, M.P.S., with Analytical Notes and Suggested Standards by C. G. MOOR, M.A., F.I.C. Fourth edition. London: Baillière, Tindall, and Cox. 1899. Pp. 223. Price 1*s.*—This little book is crowded with information of value to the pharmacist and the information is easily found since it mostly occurs in tabulated form. An important addition is that contributed by Mr. Moor on Analytical Notes and Suggested Standards. The latter would seem to require further consideration before being adopted. This synopsis is an excellent *vade mecum* for the pharmacist.

A Handbook of Nursing. By M. N. OXFORD. London: Methuen and Co. 1900. Pp. 283. Price 3*s.* 6*d.*—Miss Oxford is the Sister of a ward at Guy's Hospital, and therefore she possesses the great qualification of having a thorough knowledge of the subject about which she is writing. We gather from the preface, however, that portions of the book are attributable to those members of the staff who lecture to the probationers upon medicine and surgery. The book is divided into three parts. Part I. deals with introductory matters and general nursing instructions, Part II. is devoted to surgical nursing methods, and Part III. to the nursing and care of medical cases. Besides these there are useful appendices, notably one upon the nursing of infectious cases and another upon the feeding of children. The book is very plainly and simply written, and apart from its use to nurses we should say it would also be of use to young practitioners who have just left a hospital and are going into private practice either on their own account or as assistants. A man who has been a house surgeon or house physician will find when he goes into private practice that he feels the want of his dressers or clerks and of the sister and nurses of the ward. He will no longer be able just to write down, "Hot bath," or to say casually, "He may have ten drops," but in many cases he will have to arrange for these matters himself. He will have to cut his dressings himself or even to pad splints with his own hands, or at any rate show someone how to do it, and he will have to give directions for the prevention of sore backs. Useful hints on these matters are given in Miss Oxford's book. The publishers deserve praise for the type and, above all, for the paper which is of a good colour and free from clay, so that instead of the book being cumbrously heavy, as so many modern books are, it is light and pleasant to hold.

Aseptic Surgery. By CHARLES BARRETT LOCKWOOD, F.R.C.S. Eng., Assistant Surgeon to, and Lecturer on Descriptive and Surgical Anatomy at, St. Bartholomew's Hospital. Second edition. Edinburgh and London: Young J. Pentland. 1899. Crown 8vo. Pp. 264. Price 4*s.*—The second edition of this useful handbook to asepsis in surgery differs but little from the first, which we reviewed in THE LANCET of July 11th, 1896 (p. 117). It is a trustworthy guide to the practice of asepsis and may be employed with confidence by anyone who wishes to understand the principles by which the modern surgeon is guided. The instructions are clear and trustworthy, and though exception might be taken to one or two statements yet there is nothing that prevents us from recommending it as the most simple yet exact treatise on the subject.

Golden Rules of Physiology. No. VI. "Golden Rule" Series. By I. WALKER HALL, M.B., Ch.B. Vict., and J. ACWORTH MENZIES, M.D., C.M. Edin. Bristol: John Wright and Co.; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1900. Pp. 80. Price 1*s.*—We have upon previous occasions expressed a favourable opinion of the "Golden Rule" Series, and this, the latest of the series, shows no falling off from its predecessors. The rules are very clearly and shortly set out, so that the book should certainly attain to the object of the authors, as expressed in the preface—namely, that for those who have read text-books and are on the threshold of an examination it should be a stimulant to memory and thought. The subjects are purposely arranged in an unsystematic way, physiologically, that is to say, but they are arranged alphabetically, so that they are easy of access. In the Chemistry section we feel inclined to add one caution to those set out by the authors—namely, "Don't do colour reactions by artificial light, except it be that from a Welsbach burner." From our own experience this caution is not unnecessary.

The British Almanac for 1900. London: Published for the Stationers' Company by Charles Letts and Co. Price 1*s.*—*The British Almanac* certainly has a marvellous quantity of information, useful and otherwise, contained within its pages. So good is most of the information that we should have thought the publication was quite able to stand upon its own merits without appealing to the public by giving away presentation coupons for corsets and headache powders. A portion of the book to which we most strongly object is "The Family Doctor," by Dr. E. P. Philpots, M.D., F.R.G.S. Under the heading Useful Notes for Emergencies Dr. Philpots gives a variety of details which if they are intended for non-professional persons may be productive of infinite harm and if for his professional brethren are quite unnecessary. The "useful notes" are loosely written. For instance, under the heading "Burns and Scalds" we read: "If patient collapse give 25 drops of laudanum with some warm brandy and water internally." By far the greater number of cases of burning in families occur in children and 25 drops of laudanum is, to put it mildly, a large dose for a child. The treatment might prove fatal. Again, the paragraph entitled "Eyes, Foreign Bodies in," gives the following instructions: "If, however, the foreign body is embedded in the front of the eye (the *cornea*) it must be 'dug out' with a needle." Now, every medical man knows this, but the medical profession is not addressed in the *British Almanac*. When the anxious mother or father of a family begins to dig out foreign bodies with a needle disaster will soon follow. We hope that this section will be expunged in next year's issue.

Dod's Parliamentary Companion, 1900. London: Whittaker and Co. Price 4*s.* 6*d.*—This invaluable little compilation is brought up to Jan. 5th of the current year. The House of Lords is, as we all know, graced by the presence of one medical peer—namely, Lord Lister. There were eight medical men sitting in the House of Commons on the publication of the *Parliamentary Companion*—namely, Sir Charles Cameron, Dr. Farquharson, Sir Walter Foster, Dr. MacDonnell, Sir W. Priestley, Dr. Tanner, Sir R. Finlay, and Mr. J. F. Fox, who is F.R.C.P. and S. of Kingston, Canada. Sir R. Finlay left the practice of medicine for that of law. The number of medical Members of the House of Commons is now increased to nine by the election for London University of Sir Michael Foster.

VACCINATION AT WARMLEY.—At the meeting of the Warmley (Gloucestershire) Board of Guardians held on Feb. 6th it was reported that the births of 451 children had been registered during the first half-year of 1899; of these, 158 had been successfully vaccinated, certificates of conscientious objection were granted for 22 and certificates for postponement for five, 55 died, four were removed, and 207 were unaccounted for. One of the guardians remarked on the large number unaccounted for and proposed a motion, which was carried, drawing the attention of the vaccination officer to the fact.

Analytical Records
FROM
THE LANCET LABORATORY.

MALTED MARMALADE.

(JAMES KEILLER AND SON, LIMITED, DUNDEE; TAY WHARF, SILVERTOWN, LONDON, E.)

THE presence of the active starch-digesting principle of malt in marmalade affords a distinct dietetic gain. Further, it adds very pleasantly to the flavour of this preserve. The marmalade is evidently prepared with care and with good materials, and according to our experiments it rapidly digests starchy substances. In appearance the preparation differs in no particular from ordinary marmalade. The combination is an excellent one, the malt adding very materially to its nutrient value while the bitter principles of the orange have a favourable effect on gastric action. The marmalade is concentrated at a comparatively low temperature in vacuo so as to avoid the destruction of diastase.

AMYLOFORM.

(THOMAS CHRISTY AND CO., 25, LIME-STREET, LONDON, E.C.)

Amyloform is a white, somewhat gritty powder containing, as its name would suggest, formaldehyde and starch. It is a definite chemical combination which is said to decompose in the living animal organism with liberation of formaldehyde and starch. The former constituent is available for antiseptic treatment and the latter is hydrolised and absorbed. The powder is odourless and resists being disrupted at a temperature of 180° C. This fact has suggested its suitability for impregnating gauze for the treatment of wounds. We found that amyloform was insoluble in most ordinary solvents but that on heating with dilute potash solution it gelatinised and turned yellow. It reduces Fehling solution slowly and iodine strikes the blue colour characteristic of starch. It would seem to possess many advantages as a general antiseptic used both internally and externally.

KEYSTONE BURGUNDY (FERRUGINOUS).

(STEPHEN SMITH AND CO., LIMITED, MALMESBURY-ROAD, BOW, LONDON, E.)

Our analysis of this wine gave the following results: Extractives, 4·00 per cent.; mineral matter, 0·44 per cent.; alcohol, by weight 13·15 per cent., by volume 16·24 per cent., equal to proof spirit 28·46 per cent.; tartaric acid, 0·43 per cent.; volatile acid reckoned as acetic, 0·09 per cent. It is a somewhat full-bodied wine possessing the generous qualities of a good burgundy. It is practically free from volatile acid, a fact which speaks of its sound condition. The mineral matter contained a notable amount of iron. Though the wine is of a robust type it is free from that roughness of flavour commonly present in wines of its class.

SPECIAL DRUGS (MERRELL).

THE W. S. MERRELL CHEMICAL CO., CINCINNATI; 47, WILSON-STREET, FINSBURY-SQUARE, LONDON.)

Amongst the specimens submitted to us for inspection by these manufacturing chemists may be mentioned as possessing special interest the preparations "ferro salicylata" and "bismuth hydrastia" respectively. The former is a combination of methyl salicylate and tincture of the citrochloride of iron. It is said to give excellent results in the treatment of rheumatism being, besides anti-rheumatic, antiseptic and tonic. The solution of bismuth hydrastia consists of the double citrate of bismuth and hydrastia. It is a colourless solution and slightly viscid. It has been used in the treatment of irritable, inflammatory, or ulcerated conditions of the mucous surfaces, in diseases of the stomach and bowels, and locally in diseases of the nasal passages, the eye, the throat, and the urinary organs. In addition to the foregoing drugs we have examined a sample of fluid hydrastis which is prepared without alcohol and which forms with water, alcohol, or glycerine a clear solution. During the process the objectionable resin found in the hydrastis is rejected. Lastly, the specimens included salicylic acid prepared from oil of wintergreen and the sodium salt.

"I AND I" FOOD.

(THE INFANT AND INVALID FOOD CO., LIMITED, CEREAL-BUILDINGS, 54, CITY-ROAD, LONDON, E.C.)

The analysis of this food was as follows:—Carbohydrates, 75·50 per cent.; proteids, 13·00 per cent.; fat, 3·30 per cent.; mineral matter, 1·40 per cent.; moisture, 6·80. It will be noted that the preparation contains the three important classes of food material—heat-producing, flesh-forming, and bone-producing—in desirable ratio. The proportion of proteids and fat is especially commendable. Further, the method adopted for the preparation of this food is calculated to render it easily digestible.

KOLA ASTIER.

(WILCOX AND CO., 83, MORTIMER-STREET, GREAT PORTLAND-STREET, LONDON, W.)

The pharmacology of the kola-nut is now well known. It contains certain principles, amongst which are caffeine, theobromine, kola red, &c., which are decided nerve stimulants. Kola astier occurs in the form of a granulated powder with a cocoa-like colour. It readily yields crystals of caffeine on extraction with chloroform. Each teaspoonful is said to contain two grains of caffeine. Whilst admitting the value of this preparation as a nerve stimulant and as excellent for the purpose of relieving languor and fatigue we would point out that it should not be used indiscriminately but under the direction of the physician. Caffeine is not without dangers when administered in large doses and for a length of time.

BAKING FLOUR FOR MAKING BROWN BREAD.

(THE CEREALS CO., LIMITED, GREENOCK.)

We found no striking novelty in this flour. It produces a good loaf of good wheaten flavour and possessing satisfactory texture. The amount of proteids found was disappointing, the figures we obtained being 9·00 per cent. The mineral matter containing phosphates was proportionally high and amounted to 1·99 per cent. The moisture was 13·37 per cent. The flour contained fragments of indigestible husk.

REEVE'S COCOA ESSENCE.

(THE SWEETMEAT AUTOMATIC DELIVERY CO., LIMITED, 104, BALTIC-STREET, BRIDGETON, GLASGOW.)

On examination this proved to be a cocoa of excellent quality with the greater part of the indigestible cocoa fat removed. It contains 4·30 per cent. of moisture and 20 per cent. of fat. The mineral matter amounted to 5·5 per cent. and exhibited a soluble alkalinity equivalent to 0·8 per cent. of potash. The cocoa is satisfactorily "soluble" and has evidently been rendered so by a speeial departure in manufacture. As we have before shown raw cocoa requires careful preparation in order to be "soluble" in the cup, leaving as little sediment as possible. This process, too, increases its digestibility and therefore its suitability for invalid use.

FLUID EXTRACT OF MALT AND GLYCEROPHOSPHATES.

(DUNCAN FLOCKHART AND CO., 104, 106, SOUTH CANONGATE, EDINBURGH.)

This preparation is a decided therapeutic improvement upon the ordinary syrup of glycerophosphates, for it combines the advantages of the salts with the well-known digestive and nutritive properties of extract of malt. It further contains the nerve stimulant caffeine in a stable form in the place of the kola which was suggested in the original formula of Dr. Robin (of Paris). The preparation is valuable where an improved general nutrition of the nervous system is indicated. Experience has shown that the glycerophosphates are very advantageous under these conditions and their administration with active essence of malt is calculated to add to their

therapeutic value in this respect. Each fluid drachm of the extract of malt contains the glycerophosphates in the following quantities: calcium 1 gr., sodium ½ gr., potassium ½ gr., manganese ½ gr., iron ¼ gr., with ½ gr. of caffeine.

TABLE JELLIES.

(TOUZEAU PARRIS AND CO., LIMITED, ENFIELD WORKS, MILL HILL PARK, ACTON, LONDON, W.)

Whatever process is adopted for the production of these jellies it is evident that the best materials are used and that care is taken to avoid all contaminating influences. We could find on careful examination no objectionable colouring matters or preservatives or metallic impurity. The jellies are said to be made in silver-lined pans and consist of attractive and almost transparent unshrinking gelatinous slabs possessing a delicate odour of the various fruits employed. They yield an excellent table jelly by simply stewing in hot water and allowing the liquid to cool. In particular the jellies may be commended for their excellent yet delicate flavour, which is successfully derived from the fruit and preserved by a special process. We believe these preparations are honestly described as containing natural fruit flavours. Jellies occupy a not unimportant place in dietetics. They are pleasant to partake of, nourishing and attractive, and afford often a grateful adjunct to the food of the invalid.

BAKING POWDER.

(H. K. BUSHELL, 343, OXFORD-ROAD, READING.)

We could find no novel feature in the composition of this powder. It is, at any rate, free from objectionable constituents such as alum. It contains starch and the materials commonly employed for effecting effervescence. It serves as a convenient aerator for "raising" bread, and containing nothing but innocent materials is quite unobjectionable for the purpose.

"MAFUTA" PRESERVED BANANAS.

(THE MONTPELIER FRUIT AGENCY, 119, MIDDLESEX-STREET, BISHOPSGATE-STREET, LONDON, E.C.)

The fruit is preserved by simply extracting the water from it, and in this way it is analogous to the dried fig. Preserved bananas are somewhat mawkish to the taste. Nevertheless, they deserve a place in the dietary considering how really nutritious this fruit is. For some reason not yet explained the starch of the banana is much more readily digestible than are the cereal starches, besides which the fruit contains a notable proportion of nitrogenous material. We could find no objectionable preservatives. The fresh fruit can so readily be obtained in this country in excellent condition that there hardly appears to be a reason for providing it in the preserved state. There is, however, a curious but not disagreeable flavour in the preserved banana, suggesting slight fermentative change and not unlike the flavour of the spirit obtained from the fermentation of molasses.

PATENT CUSTARDS.

(S. CHIVERS AND SONS, HISTON, CAMBRIDGE.)

According to our examination the composition of these custard powders is quite simple and the materials are free from reproach. By simply boiling with milk and allowing to cool a custard is obtained. Of course the nourishing property of a custard prepared in this way cannot be compared with that of the true custard prepared with eggs. Indeed, the "Patent Custards" contain relatively a very small proportion of proteid matters.

New Inventions.

AN IMPROVED STORAGE BATTERY, "RESISTANCE," AND CHARGING BOARD FOR MEDICAL USE.

WE have recently inspected some interesting electrical apparatus for medical and surgical use which present features of advantage to the practitioner and surgeon. Thus in the battery the chances of short-circuiting happening are reduced to a minimum by introducing a highly porous medium between the plates. The battery, in fact, is almost of solid mechanical construction. The separating medium is of such a highly porous nature that it offers practically no resistance, and, indeed, it is said that a standard cell which has a capacity of 30 ampères at its normal discharging rate (that is to say, three ampères) can be discharged at three or four times its normal discharging rate without a serious fall of pressure or without deterioration of the plate. The positive material, being covered by the separator, cannot disintegrate, while elastic bands are provided which hold the elements together and compensate for any expansion or contraction which may occur either during the forming or charging and discharging operations. The metal containing frame for the active material is so arranged that all portions of the material are in intimate contact with it; therefore the whole mass of the material is put into service. In this way a very large capacity for a given quantity of active material is obtained. The makers, indeed, state that they obtain at normal rates of discharge a capacity of one and a quarter ampère hours per ounce of lead peroxide — a result, they believe, which has not been obtained in any other form of lead storage battery. The battery is specially constructed to withstand a considerable amount of rough treatment and the connexions between cell and cell are accessible so that should a disconnexion occur it can be easily remedied. This battery has given excellent results for x-ray work and is very well adapted for carriage lighting. The same electrical engineers have introduced a variable compression resistance which medical men will find highly convenient for regulating the intensity of the light of any of the lamps which they may have in use. Its range being very large renders it equally useful for working lamps, small cautery instruments, or induction coils. In the case of small cautery instruments the heat can be regulated to a nicety, as a variation in pressure of a fractional part of a volt makes a considerable difference in the heating of platinum wire. Thus the finest possible adjustment can be effected by this new instrument. By an ingenious arrangement a large radiating surface is presented, the resistance discs being kept apart by springy metal plates which give elasticity and a correspondingly large radiating surface. A valuable adjunct to this equipment is a special charging board which enables anyone having a direct current circuit available to re-charge his battery without the possibility of joining it up wrongly. By means of a little needle actuated by a magnet the positive pole is at once indicated and no mistake can be made. The device is a great improvement upon pole finding paper. The designers of the apparatus described are Messrs. Niblett, Sutherland, and Marcuson, electrical engineers, of 61, Chandos-street, Strand, W.C.

THE NITRO-PROPIOL TEST FOR SUGAR IN URINE.

Advantage has recently been taken of the fact that nitropropiol interacts with glucose to form indigo, in connexion with a simple and ready test for sugar in urine. Nitropropiol is, to give it its complete chemical name, the sodium salt of ortho-nitrophenyl-propiolic acid $C_6H_4(NO_2)C:CCO_2H$, so that the reaction taking place may be thus represented: $2C_6H_4(NO_2)C:CCO_2H + 4H = C_{16}H_{10}N_2O_2 + 2CO_2 + 2H_2O$. The change of course is due to the reduction of the nitro-propiol by the glucose. It is stated that the test is not affected by kreatinine, glycuronic acid, or other constituents of the urine or by such drugs as iodine, salicylic acid, turpentine, &c., which may occur in the urine. The test is stated to indicate with certainty 0·05 per cent. of grape sugar. Nitro-propiol is supplied in tablets ready for use, and in order to carry out the test one tablet is dissolved in three drachms of water after which 10 drops of the urine are added and the mixture is then gently boiled for from three to five minutes. Indigo blue soon appears if sugar be present and the quantity of the precipitate or the intensity of the colour is proportional to the amount of glucose present. The test is known as Teusch's Nitro-propiol Test and the tablets are supplied by Messrs. Wilcox and Co., of 83, Mortimer-street, Great Portland-street, W.

THE laryngoscope devised by Dr. Mark Paunz, described and figured in THE LANCET of Jan. 6th, p. 37, is made by Messrs. S. Garay and Co., IV. Kossuth-Layos-utcza 1, Budapest.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 17, 1900.

IN another column there will be found the full text of the Midwives Bill, which was introduced into the House of Commons by Mr. TATTON EGERTON on Friday, Feb. 2nd. As will be seen the differences between it and the measure introduced into the House in January, 1899, are very slight and consist mainly of a few additions made at the suggestion of the Privy Council. It will be noticed also that throughout the Bill the words "certificate" and "licence," "certification" and "licensing," have been transposed, so that the certificate now admits to the roll while the licence is an annual affair granted by the local supervising authority. The Bill has obtained the second place for Wednesday, Feb. 28th, and will then be read for the second time unless the debate on the measure which has obtained the first place on the same day be unexpectedly prolonged. Under these circumstances it seems to us imperative that the medical profession should make up their minds what course they desire Parliament to pursue. The "Midwives Question" is, as we have frankly recognised and often said in these columns, an exceedingly difficult one to solve. For both those who do and those who do not desire legislation for the regulation of the practice of midwives—whether it take the form of Mr. TATTON EGERTON'S Bill or of some similar measure—can with equal force maintain that their opinion is the right opinion on humanitarian grounds and no less on medical grounds. To leave the people to the mercies of the Gamps is cruel, but to supply them with a semi-educated grade of medical attendants is no kindness. If the first course leads to disasters, the second would seem as inevitably to make for tragedies. However, we are not now discussing the question at large or any Bill in particular. We are only urging on the profession that there is no time to be lost if their voice is to be heard on one side or the other. We do not say that Parliament will adopt the attitude that it is desired to take by the medical profession, for Parliament nowadays is especially and rightly opposed to legislation in favour of classes; but we are certain that it will be of immense assistance to our law-givers if they can know what is the view of the medical profession. For this view by all tradition should be a liberal one and instinct with a desire to better the condition of the sick poor. We have decided to make an attempt to ascertain what is the general feeling of those medical practitioners whom the proposed legislation concerns. The Bill does not contemplate Scotland or Ireland in its working. To the English medical men we have addressed a circular letter begging them to tell us if they are in favour of legislation for the regulation of the practice of midwives or not, and, further, if they are in favour of such regulation, whether the Bill now before the House meets with their approval. We hesitate to say that the medical practitioner who does not answer our circular is convicted thereby of indifference to the whole question, for it seems to us that to do so would be tantamount to making a rather too positive demand for a reply. But we do say that the "Midwives Question" is an exceedingly important one; that such circular letters are not issued in thousands without the expenditure of time, trouble, and money on our part; and that to write a word or two upon a postcard already stamped and addressed, and to place that postcard in the post should not be a very onerous task for anyone. We trust that we shall receive answers generally and promptly to the circular, for whether Parliament is swayed or not entirely by the opinion of the medical profession, that opinion cannot be without great influence and ought to be registered.

THE Managers of the Metropolitan Asylums Board at their last fortnightly meeting found themselves confronted with a choice between two evils. The matron of one of the hospitals of the Board had written stating that she had been selected as a nursing sister for a military hospital at Cape Town (which presumably means that she had voluntarily offered herself and had been accepted) and she asked to be granted leave of absence without pay during the time that her services were required by the Government. The Board therefore had to choose whether they would permit one of their institutions to suffer such disorganisation as might be expected to arise from the appointment as a temporary matron of one who would know that she occupied her position for a wholly indefinite period which no efficiency or energy on her part would prolong, or whether they would boldly incur such unpopularity as might be expected to result from a decision which would strike the thoughtless as unpatriotic. The Hospital Committee recommended that the matron should be informed that the Managers could not see their way to accede to her request, and the chairman of the committee brought forward a motion embodying this recommendation, which was duly seconded and supported. On the other hand an amendment was moved to the effect that the matron's application should be granted. A lengthy discussion took place, in which the views of both sides were urged with considerable force and with some warmth. It was said on behalf of the Hospital Committee's recommendation that although leave had been granted to humbler officials and no difficulty had been found in providing for the performance of their duties during their absence, to place a hospital in complete charge of a substitute was another matter. However great the national needs might be, still nothing had yet happened to the country and nothing ever could happen which would justify the Board in neglecting the needs of the sick under their care. For the counter proposal that the matron should be allowed to go, and in due course to return, it was urged in strong terms that to refuse her request would show an unpatriotic spirit. The Board was called upon to emulate the loyalty which had animated every other body in the country. In the end the motion recommended by the Hospital Committee was carried,

and so was a second one, naturally resulting from the first, that the Board should accept the matron's resignation of her position. This she had tendered in a further letter, being apparently aware that her first application would not be favourably received, and having made up her mind in any case to proceed to South Africa.

With the matron's decision we find no fault. She may deserve considerable credit for the course which she has taken. She voluntarily abandons a comfortable, if responsible and perilous, post for one which must imply arduous work in very trying circumstances. At the same time we cannot but sympathise with the Board in the situation in which they found themselves placed and we commend their decision which showed that they fully appreciated their true position in the matter and were determined courageously to maintain it. That it would be attacked was certain. A contemporary, a leading London daily newspaper, in assailing the Metropolitan Asylums Board quotes the saying of the Saviour of mankind, "The poor ye have always with you." Without going into the circumstances in which these words were spoken we hold that to interpret them into a command to neglect our sick poor at home while attending to our wounded soldiers abroad is both wholly contrary to their spirit and to the spirit of Him who spoke. The present war has evoked an extraordinary amount of zeal on the part of thousands who have voluntarily offered themselves to take part in it, and of self-sacrifice on the part of those who have undertaken to keep open the places of the volunteers until their return. Many have gone out cheerfully because their duties as reservists compelled them to do so, and these also their masters have in almost every case undertaken to employ again. There is, however, an obvious distinction between the reservist and the volunteer, just as there are limits beyond which volunteering for active service is strongly to be deprecated. Soldiering is essentially for the young, the active, and the specially trained; the middle-aged, those accustomed to sedentary lives and without military experience, are likely to become burdens to their fellows at the front. Again, those whose places cannot be filled if they fall—fathers of families, for examples, who leave wives and children unprovided for—these should not put themselves forward to go. As a rule, those who have volunteered are young men who have not given hostages to fortune and whose duties can be discharged by others; we doubt if employers would be ready to facilitate the departure of the more responsible of their servants, to put temporary substitutes into the places of confidential clerks and trusted managers, nor can they reasonably be expected to do so. For similar reasons those occupying such posts cannot reasonably or rightly abandon them of their own free will—impelled, as they are no doubt largely by patriotism, but also by a Briton's love of adventure—and expect their billets to be temporarily filled. The loss, should anything go wrong during their absence, would fall upon their employers, and the business of the country must go on despite the war.

The Metropolitan Asylums Board clearly took this view of their matron's application. They expressly said that they had allowed minor officials to go with the promise that they should return, but that they could not permit the smooth working of one of their hospitals to be impaired in order that the official responsible for it should do for her country what others might undertake without causing loss to anybody. The position of the Board, moreover, differs in an essential particular from that of the commercial employer to which we have compared it and makes the course which the Board have taken more clearly the right one. The Board might incur trouble in finding a temporary matron, but any loss resulting would not fall upon themselves, but would be felt by those persons who are the inmates of the hospitals of the Board and with the safeguarding of whose interests the Board are entrusted. The Board, if they had granted the request of the matron to the possible injury, in however slight a degree, of those entrusted to their care, would have exhibited a cheap patriotism, and have been guilty of a genuine breach of trust.

A STATE of war sets in exhibition the most contradictory sides of humanity. If it seems to expose the worst aspects of our nature it also undeniably brings into view some of the best. Among the more active participants it is the cause of self-sacrifice, self-denial, and cheerfulness under the most trying circumstances in a determination to do all that lies in the power of each for his Sovereign and country. And if we who stop at home cannot do so much, yet we recognise that it is our part to minimise as far as we can the sorrows and distresses which war inevitably brings in its train. The present conflict in which we are engaged has given many examples of a wish, and of more than a wish, to help. Neither has this desire been confined to one class or one corner of the empire. Relief funds abound and subscriptions have been sent not only from the United Kingdom, but from every part of the QUEEN'S realms. Every class of woman, from the highest to the lowest, has vied in making articles of clothing for the troops or in providing them with comforts wherewith to lighten the hardships of the campaign.

But there is a class which is in danger of being neglected—or perhaps we should say overlooked—and that is the class comprising those officers who are not too well off in the matter of temporal goods. We recently published an appeal from the Duke of ABERCORN[1] "on behalf of those sick and wounded officers of all services whose means are inadequate to secure that efficient medical and surgical treatment which will often be needed to restore to them, after their return home, the health they have sacrificed in the service of their country." His Grace went on to point out that there would certainly be many officers who had small private means and who would not be in a position to command the skilled assistance which they would most urgently need. He therefore felt that an attempt should be made to offer assistance. It will be remembered that an influential committee was at once formed and already a fair amount of money has come in through subscriptions. It will be difficult, perhaps, to distribute the benefits of this fund in a way which will be at once unostentatious and calculated to do the most amount of good. But the possible recipients will not hesitate to take

[1] THE LANCET, Jan. 13th, p. 133.

their share if the help is offered to them, as we are sure it will be, as an expression of earnest desire to show gratitude to those who have done their best for their country. Sickness is always a heavy tax upon the resources of even a rich household, and in the ordinary English home it involves disturbances of the domestic *régime* which militate much against the recovery of the patient. The regimental and professional demands upon the purse of an officer absorb much of his pay, and for anyone whose private means are somewhat straitened the thought that every extra sum spent upon himself means less comforts, we might say less necessaries, for his wife and children is a factor calculated to retard restoration to health. Therefore it is that we welcome the appearance of the fund in question. The patients will for the most part pay some share of the expenses, and there should be no hesitation in accepting their offer to do so. Secondly, as regards the medical or surgical attendance it is necessary that the medical man should receive some fee. Many leaders of the medical profession have joined the committee and there will be no lack of consultants ready to give their services; but this is not what is wanted. If one operating surgeon is thus profuse in doing good others will feel bound to follow suit, and we should soon reach the position of the poor officer being helped by a surgeon but little if any richer than himself. By all means let operations be charged at a great reduction from the usual fee; towards the reduced fee the patient should contribute a quota such as his means can afford, while the balance could be made up from the fund, which should also supply dressings and bandages if such are needed.

It is above all things necessary to make the recipients understand that help is offered ungrudgingly, unostentatiously, and with a real desire to repay benefits already received. Aid will not only help themselves but those dear to them. It is hard to fight, hard to see companions falling on every hand, but harder still is it for those who have to stay inactive at home. Hear the words of one unjustly called a cynic: "Dreadful doubt and anguish—prayers and fears and griefs unspeakable—followed the regiment. It was the woman's tribute to the war. It taxes both alike and takes the blood of the men and the tears of the women." Let us see to it that additional sorrow is not laid upon both those who fight and those who suffer in silence by any lack of skilled aid which may help to restore him who has unselfishly given his best. We hope that our readers will contribute to the medical fund in aid of the sick and wounded officers and will bring the fund also to the notice of their friends and patients.

THE electors of the University of London, in choosing a successor to Sir JOHN LUBBOCK, have made a good selection. They have chosen one of the most distinguished graduates of their University, who has achieved an enormous reputation both as teacher and man of science in the sister University of Cambridge. The claims of Sir MICHAEL FOSTER have been so successfully vindicated by the electors, and are indeed so obvious, that it seems unnecessary to revert to the attempts that were made during the contest to show that as a Cambridge professor he must necessarily be out of sympathy with the external student, and therefore with the University of London. It shows to what straits Sir MICHAEL FOSTER'S opponents were driven to find arguments against him that such a plea should have been put forward. In his brief speech after the result of the election was announced the new Member of Parliament expressed his intention to do his duty by labouring in the House of Commons not for the interest of any particular class, "be they doctors or lawyers, men of letters, men of science, or men of business, internal or external students," but for the common good of all. He took no narrow view of the future of the University, but considered that in its new form it has before it a great future. Such hopefulness in the representative whose election coincides almost exactly with the reconstitution of the University is of good omen—especially when it is remembered that Sir MICHAEL FOSTER, who claims to owe everything to the University of London, has since played a conspicuous part in an ancient university founded and developed on very different lines. What is wanted in the present position of the University of London is the help of men who are in sympathy with all that is best in both old and modern universities, and who realise that the time is opportune for creating in this metropolis a university combining all the advantages of both and free from some of their trammels. Surely no one could have been chosen by the graduates to represent them in Parliament more likely to afford such help, or more free from prejudices, academic or theological, general or domestic, than Sir MICHAEL FOSTER. He is returned as a supporter of the Government upon one or two points which at present dominate public attention, but a man who rejoices in being born where CROMWELL was born may be expected to assert in Parliament the claims of truth regardless of party considerations.

The election of Sir MICHAEL FOSTER by a large majority is not only good for the interests of the University of London, but will do much to strengthen faith in the Parliamentary representation of universities. If the members of universities have no claim to special representation so much the worse for them. The universities have it in their power, and should have it in their disposition, to return men to Parliament of special usefulness who may never make a political speech, and who yet may be able to see what are the great wants of the country and to express them in terms all the more forcible because their words do not smack of the political caucus. On all these grounds we rejoice in the election of Sir MICHAEL FOSTER. The return of Dr. COLLINS to Parliament by an academic constituency, largely medical, would have been unfortunate for reasons which we considered it our duty to indicate clearly before the election, while Mr. BUSK'S candidature did not commend itself to us any more than it did to the constituency.

UNIVERSITY OF CAMBRIDGE.—Vacancies in the boards of electors to the several chairs in the department of medicine have been filled up as follows: Chair of Anatomy, Dr. D. MacAlister; Downing of Medicine, Sir T. Lauder Brunton; of Physiology, Dr. W. H. Gaskell; of Surgery, Mr. T. Holmes; of Pathology, Dr. L. Humphry.

Annotations.

"Ne quid nimis."

"PUNCH" AND THE CHILDREN.

CHILDREN of all ages take a delight in *Punch* and *Punch* has always made it a tradition in its genial pages to love the children even while recording examples of their "terribility." It is, therefore, not surprising to us to find an eloquent appeal issued from the *Punch* office on behalf of the Hospital for Sick Children, Great Ormond-street, W.C. We knew this hospital to be badly in want of money, but the proprietors of *Punch* state that "unless a very considerable sum is shortly forthcoming the hospital must inevitably close its doors this year." Messrs. Bradbury and Agnew are making an effort to enlist the sympathy and obtain the material assistance of all people who would regard as a calamity the closing of this the oldest children's hospital in England. To which end they have in the current number of *Punch* published a special appeal together with a reprint of a story by Mr. Anstey Guthrie which appeared in *Punch* of Jan. 31st last. We can only in the strongest terms recommend our readers to do as they are asked by the proprietors of *Punch*—i.e., to give what they can to a splendid charity and persuade as many people as possible to do the same. It is needless to insist upon the sufferings of sick children who reside in a poor home—every medical student who has been a few minutes in an out-patient department learns something of what these sufferings are. The war, we know, has made great calls upon all purses, but there must be many among us who can still spare something for that house of mercy the Great Ormond-street Hospital. Donations will be thankfully received on behalf of the "Ormond-street Hospital Fund" by Messrs. Bradbury, Agnew, and Co., 10, Bouverie-street, Fleet-street, E.C., whom we congratulate upon their efforts.

"HALF A MAN" IN COURT.

A YOUTH from Jamaica, described as dark-skinned and beardless, sought the advice of Mr. Plowden at the Marylebone Police-court a few days ago and told the following story. Owing to the ill-treatment of his stepfather he had run away from home and joined a ship as an ordinary seaman. He was, however, unable to do his work properly because, as he told the magistrate, the upper part of his body resembled that of a woman. The captain of the vessel discovering this fact put him on easier work, but absolutely refused on reaching Liverpool to re-engage him, saying that he wanted a man and not half a man. Since this he had failed to find work, and having wandered up to London in a destitute condition he applied to the court for help. No doubt this individual is an example of the abnormality known as gynæcomastia or gynæcomazia—a condition well recognised by all medical writers. It occurs in male animals as well as in man. Thus Aristotle records the case of a he-goat at Lemnos who furnished milk from which most excellent cheese was made. The oracle on being consulted as to the nature of this prodigy predicted a great increase of fortune for the happy owner. According to Puech breasts of female type are found as often as 1 in every 13,000 conscripts. That the presence of well-developed breasts does not necessarily interfere with the duties of a seaman is shown by the case recorded by Morgan.[1] It is that of a man, aged 21 years, admitted to the Royal Naval Hospital at Hong-Kong, whose right mamma had the appearance of the well-developed breast of a full-grown woman. The areola was large and brown coloured, but the nipple was the same size as that on the left breast. The breast was first noticed to enlarge at 16½ years of age; since then it had steadily increased, but no milk had ever been present. The external genitalia were well and fully developed. The man complained of no discomfort except occasionally, when drilling aloft, his breast came in contact with the ropes. Hutchinson[2] records a very interesting case of a boy of 15 years of age, the son of a woman affected with acromegaly. He was enormously fat in all parts of the body but without a trace of hair on the face. His breasts were as large as those of a well-developed young woman and had fairly large nipples. The penis, scrotum, and testicles were extremely small, the latter not bigger than small acorns, while the pubic hair was almost absent. Such atrophy of the external genital organs is not infrequently associated with gynæcomastia. Not only are well-developed breasts met with in males of all ages, but every now and then cases occur in which these individuals are able to suckle young infants. Gould Franklin, in his "Voyages to the Polar Seas," quotes the case of an old Chippewa Indian whose wife died in childbirth and who put his infant to his breast and prayed that milk might flow. It did so flow and he was fortunate enough eventually to rear the child. Possibly this is the same Indian, then a chief, 101 years old, whom Kane alludes to in his book upon the Indians of Hudson's Bay. Thomas Bartholin mentions the case of a man who had so much milk in his breast that he was accustomed to draw it off and make cheese of it which he sold "to the curious." If we are to believe the *Journal des Sages Femmes* a quack practitioner at one time started a school for male wet-nurses, holding out as an inducement to possible clients the great physical advantages their babies would be likely to derive from being suckled by sturdy men. The development of breasts in the male with or without the presence of milk is not uncommonly hereditary, and histories are recorded of whole families who have exhibited this curious anomaly.

[1] THE LANCET, Nov. 27th, 1875, p. 767, with a sketch.

"THE USE OF THE AMBULANCE IN CIVIL PRACTICE."

IN a re-issue of a pamphlet bearing the above title Mr. Reginald Harrison quotes some painful instances of the hardships and dangers resulting from the conveyance of patients to hospitals by unsuitable methods. Fractures of the lower limbs, in particular, may be greatly aggravated in this way, either by the wounding of blood-vessels by the ends of the bone or by the conversion of a simple fracture into a compound one. Risks of another kind are incurred when a patient suffering from cardiac dyspnœa is taken to hospital in the upright position in an ordinary cab. In 1881 Liverpool possessed no ambulance resource of any kind except a two-wheeled conveyance resembling a costermonger's barrow used by the police. Mr. Harrison recollects being summoned to see two gentlemen who had had their legs fractured on ocean steamers arriving at that port, and he says that the crowds attracted by the spectacle of their removal to a hotel resembled a Royal progress, whilst a ship's captain suffering from a painful complaint when taken through the streets on the above-mentioned two-wheeled conveyance was supposed by the mob to be intoxicated and jeered at accordingly. In contradistinction to these primitive and unsatisfactory methods Mr. Harrison commends the system in operation in some cities of the United States, where proper vehicles are kept at certain hospitals ready for instant despatch to the scene

[2] Archives of Surgery, 1891.

of an accident or emergency. Mr. Harrison gives a description of the ambulance vehicle belonging to the Massachusetts General Hospital at Boston and there is also an illustration of the removeable stretcher which forms a part of the vehicle. The pamphlet is published by Messrs. John Bale, Son, and Danielsson.

THE SERUM TREATMENT OF LEPROSY.

IN his annual report on leprosy in New South Wales for the year 1898 Dr. J. Ashburton Thompson mentions that on Jan. 1st 13 persons remained under detention at the lazaret and that during the year nine persons were reported to the Board of Health under the Leprosy Act, 1890, as being suspected lepers. Four of them were eventually admitted to the lazaret under warrants issued by the Board. One, a Chinese, was allowed to return to China and another Chinese died in a Sydney hospital before his removal could be effected. The remainder were found to be suffering from some disease other than leprosy. Three patients died during the year, so that 14 remained in the lazaret on Dec. 31st, 1898. Four appendices are attached to the report. One of them describes the results obtained at the New South Wales lazaret with the serum treatment of leprosy, devised and strongly recommended by Dr. Don Juan de Dios Carrasquilla of Bogotá, Costa Rica, South America. Dr. Carrasquilla's method was to bleed lepers, to separate the serum, to inject it subcutaneously into horses, mules, or asses; to bleed these animals after they had received a sufficient number of injections; to separate the serum of their blood; and to inject this subcutaneously into persons suffering from leprosy. He stated that this treatment had been extraordinarily successful in about 100 cases of leprosy, and as there were rumours of success obtained by the method in other parts of the world, Dr. Frank Tidswell experimented with it at the New South Wales lazaret from August, 1897, till June, 1898. Four patients readily permitted venesection to be performed upon them. They were all suffering from tuberous leprosy in an active—i.e., a progressing—form. The venesections were performed in the usual way on the median basilic or median cephalic veins of the arm, the skin being previously washed and carbolised. The blood was received directly into a sterilised glass measuring cylinder, 250 cubic centimetres being removed at each operation. The cylinder, plugged with cotton-wool, was afterwards placed in a vessel packed round with ice and put away in a dark cupboard. In from 24 to 48 hours the serum was removed by means of a sterilised pipette into a sterilised flask, care being taken to avoid admixture with hæmoglobin. The leprous serum was injected into a horse, always within a few hours after its collection, so that there was no occasion to use camphor or other preservative. The injections were given subcutaneously into the chest or behind the shoulder, after previously shaving, washing, and carbolising the skin. From Sept. 4th, 1897, to August 6th, 1898, the horse received 17 injections, the dose commencing at 30 and rising to 150 cubic centimetres. It was bled four times—namely, on Oct. 3rd and Nov. 20th, 1897, and March 15th and June 3rd, 1898. For this purpose a sterilised trocar and cannula were passed into the jugular vein, the skin having been previously shaved, washed with soap and water, then with carbolic acid lotion, and finally with clean, recently boiled, water. On withdrawing the trocar the issuing blood was led through the cannula by attached indiarubber tubing into a sterilised glass jar plugged with cotton-wool. About 1500 cubic centimetres of blood were removed at each operation. When this amount had been obtained a clamp was tightly screwed on the rubber tubing near the jar and the rest of the tubing attached to the cannula was cut away. The jar of blood was then placed in a vessel, packed round with ice, and put away in a dark place. In from 24 to 48 hours the serum was removed into a sterilised flask by means of a sterilised glass syphon. It was distributed into tubes containing each about 10 cubic centimetres by the following method. Pieces of glass tubing one centimetre in diameter and rather more than 10 centimetres long were sealed at one end and the other end was drawn out to a capillary point. The points were then passed through pinholes in thick indiarubber tubing connected with a Bunsen aspirating pump, and when a partial vacuum had been obtained the capillary part of each tube was sealed by a small flame. The tubes were then sterilised in the hot-air oven, and were filled by plunging the capillary part under the serum and breaking off its point with a pair of sinus forceps. The serum immediately almost filled the tube and the capillary part was then sealed. The serum was injected into the lepers under the skin of the flank in the usual way with an "antitoxin" syringe. Two patients underwent the treatment from Oct. 8th, 1897, to June 7th, 1898. One of them received 32 injections of five cubic centimetres each, two of 10, and one each of one and two cubic centimetres. The other patient received 32 injections of five cubic centimetres each, and one each of 10, two, and one cubic centimetres. The results obtained are summarised as follows in the closing sentences of the paper. "It will probably be conceded that Carrasquilla's method has been patiently and perseveringly tested by us. Patients and physicians were equally anxious to give it every chance of success. Nevertheless, we have not found it produce the least improvement, but, on the contrary, the disease continued to progress in both patients. We are therefore obliged to regard Carrasquilla's method as inefficacious."

"NOT THE DISEASE ONLY, BUT ALSO THE MAN."

THE Shattuck Lecture for 1899 recently delivered by Dr. James Putnam before the Massachusetts Medical Society has just appeared as a reprint in pamphlet form. Dr. Putnam does much more in this contribution than merely to reiterate the truth embodied in the subject which forms the title of his lecture. He tells us how the "man" is to be treated, especially in those very numerous cases in which the disease presents a "psychical" as well as a bodily aspect. He points out clearly what is of value medically in hypnotism and its congeners—viz., the strong underlying element of suggestion. The mind or brain of man may be influenced, not only as an organ of thought, but as an organ of bodily nutrition and as the seat of forces which do not always recognise the personal consciousness as their ruler. Dr. Putnam would rate a sound knowledge of psychology in the physician above a knowledge of botany and zoology, and would make it the ground-work for the preparation necessary for medical study and practice. "The physicians who have previously been good students of psychology have in my experience proved themselves to be men of unusually broad sympathies and high ideals," says Dr. Putnam, "and keen to see causes of disease to which the pure pathologist is often blind. No argument is needed to show what transforming power the mind may exert. The energies set free by the magic agencies of hope, courage, desperation, fanaticism, or by the enthusiasm for a great cause, may reveal the possession of a force undreamt of, or so husband the resources of the body as to keep the flame of life burning for a time when the oil seems exhausted." The physician is by his profession an educator not only of children but of adults also, and above all of that multitude of persons whose lives are disordered or damaged by the so-called trivial neuroses which nevertheless cause an infinite amount of trouble and suffering in the world.

It is as meaningless as it is discouraging to tell a suffering person that his "pains are imaginary"—psychology recognises no such thing as imaginary pain. The physician, says Dr. Putnam, should give persistent encouragement, accompanied by such explanations as will enable the patient to understand and convince himself that the physician's cheery convictions will be realised. Coaxing and training—a regulated discipline in conduct, in diet, and daily life—may all be employed as valuable adjuvants to dispel, for example, from the mind of the hypochondriac the fallacy and idleness of his notions. In cases where such suggestion and advice are inadequate, hypnosis in its various degrees may be properly employed. Rest and recreation, physical exercise, and literature should exert their powerful influence to get the sufferer out of his morbid psychological habits—out of his wretched self. Dr. Putnam preaches no new doctrines, but he has skilfully brought together useful facts and views having a distinct medico-psychological value. The physical and psychical aspects of man for purposes of therapeutics are not two but one, and of this fundamental fact the physician seeking ever to relieve cannot be too often reminded.

EPILEPTIC ATTACKS WITH CRUDE SENSATIONS OF SMELL AND AN INTELLECTUAL AURA.

IN the current number of *Brain* (Winter 1899–1900) Dr. J. Hughlings Jackson and Dr. Purves Stewart record the following interesting case. A. B., a member of the medical profession, aged 51 years, married, had enjoyed excellent health until three and a half years ago. He then had a severe attack of septicæmia from which he recovered. He remained well till October, 1898, when he had septic cellulitis of his right hand and suffered from high fever (105° F.) and occasional delirium, since which his general health had never been good. He never had any head injury or otorrhœa at any time. "Ever since his second attack of septicæmia the patient had been subject to occasional attacks of excitement without sufficient apparent cause. He used to come home from his rounds in a state of excitement. His general manner became different; his memory also became impaired ..... and on one occasion he called to inquire for a patient who had long been dead." Two months before he came under observation he suffered from attacks of nausea and giddiness and experienced strong sensations (hallucinations) of smell, "like camphor or ether." The smell was succeeded by an intellectual aura, a condition in which he "felt as if he was saying, doing, and looking at things which he had experienced before ..... and people and things seemed to be far away." His face expressed horror at such times, but there were no twitchings and he apparently did not lose consciousness. He never had diplopia. His sense of sight, of smell, and of taste seemed normal on both sides, but the left ear was slightly deaf. The pupils reacted normally and there was slight optic neuritis in the right eye. Cutaneous sensation, muscular sense, and the knee-jerks were normal. He rapidly grew feeble and complained of headache in the right temporal region; his respiration grew faint at times and he finally passed into a state of coma. The temperature rose to over 100° F. and occasional clonic spasms of the left arm were observed on the night before his death. A few days before death a slight left-sided hemiplegia appeared, most marked in the face. The case is clinically a very important one, especially as exhibiting the association of a crude olfactory aura with the dreamy state and with the emotion of fear in slight epileptic seizures. Dr. Hughlings Jackson has suggested for such cases the name of the uncinate group of fits.[1] The case had been seen in consultation with Sir William Gowers and tumour of the temporo-sphenoidal lobe was diagnosed, but it was not regarded as a suitable case for operation.

[1] THE LANCET, Jan. 14th 1899. p. 78.

ROYAL ARMY MEDICAL CORPS FUND.

AT the meeting of the Executive Committee of this Fund on Monday last subscriptions to the amount of £285 5*s.* were announced in sums varying from 5*s.* to £20. Gifts in kind had been received, purchases had been made, and 1200 parcels had been forwarded through Mrs. Charlton to the front. Several ladies have joined the committee since the last list was published, including Adeline Duchess of Bedford, the Marchioness of Hertford, the Countess of Essex, Viscountess Valentia, Lady Boston, and Lady Brownlow. A great deal of interest is evidently being taken in the Fund by the public. The honorary treasurer (Mrs. Charters Symonds, 58, Portland-place) has also received several half-a-crown subscriptions from medical men.

THE MARINE HOSPITAL SERVICE OF THE UNITED STATES.

THE Surgeon-General of the Marine Hospital Service of the United States, in his report for the fiscal year ending June 30th, 1899, states that the past year has been the most active in its history. The service owns and manages 22 marine hospitals and there are besides 107 stations where patients receive hospital or dispensary treatment. During the fiscal year 1899 the total number of patients was 55,489, of which number 12,610 were treated in hospital. At Fort Stanton, New Mexico, the climate of which is in a high degree favourable to the treatment of tuberculosis, the department has had transfered to its use an abandoned military reservation with the object of its development as a sanatorium. This measure will tend to relieve the marine hospitals of these contagious cases, as well as to aid in the great movement now being urged throughout America and other countries in suppressing a communicable disease. The Marine Hospital Service also owns and manages 13 large and complete quarantine stations. There were 3838 vessels inspected at these stations during the fiscal year. In January, 1899, an order was signed by the President and the Secretary of War transferring all the maritime quarantine of Cuba and Porto Rico to the Marine Hospital Service. In March another executive order was issued declaring that the expenses of this service should be paid from the revenues of the islands. A thorough organisation was effected as soon as possible, there being at the present time some 30 officers of the service in Cuba and seven in Porto Rico. On account of the increasing prevalence of plague in Asia and certain portions of Europe and Africa officers of the Marine Hospital Service have been detailed for duty at Honolulu, Yokohama, Hong-Kong, and Naples. Perhaps the most interesting portion of the report is that which refers to the cause of yellow fever. A commission of medical officers of the Marine Hospital Service were detailed by the President to make an investigation into the cause of this disease. In the first place they verify the findings of Sanarelli in his discovery of the bacillus icteroides. Further than this they demonstrate that the disease is received into the human system through the respiratory tract and indicate the probability of a serum similar in its use to that now employed in the treatment of diphtheria proving protective. The report also draws attention to the success attending the efforts of the Government in Cuba in diminishing the prevalence of yellow fever by sanitation. It is known that there are many seaports in the Western Hemisphere where yellow fever is endemic on account of bad sanitary conditions. An inquiry is now being conducted concerning the ports

of the Western Hemisphere, where yellow fever constantly prevails, with a view of definitely determining the reason therefore and proving, if possible, that it is due to want of proper drainage, sewerage, and cleanliness of the harbour. The report suggests that in the interests of commerce, as well as of life and health, the time may come when an international agreement may be effected between the republics of the Western Hemisphere by which the insanitary conditions which perpetuate this pest in certain ports will be considered a just cause of complaint by the other republics, when quarantine or other restrictions would be imposed by mutual agreement upon the Government possessing the offending port to cause it to adopt the necessary measures for the abatement of the evil.

THE STREETS OF LONDON IN THE MIDDLE AGES.

WE found it necessary on a recent occasion to complain of the way in which some of the London vestries neglect to carry out their statutory duties with regard to clearing the streets after a fall of snow. An alteration in the present method of street cleaning is much to be desired, and it would certainly be advantageous if water were more frequently and copiously used for flushing purposes. But although there is still much room for improvement a distinct advance has been made since the middle ages. The records of the city of London show clearly enough in what a filthy state the streets were formerly kept. The earliest regulations which were made with regard to the streets had reference to the preservation of order, and all those who wandered out after curfew were liable to summary arrest. Regulations for carrying out this edict were made in the reign of Edward I. and in the year 1297 a regulation was made with regard to cleaning the streets. It was enacted that everyone should keep clean the front of his own tenement, "that so the streets should be delivered from all encumbrances." A week's grace only was given before the regulation came into force, and after this interval the owner of any house was liable to be fined half a mark. At the same time it was ordered that al pigstyes should be speedily removed and that any swine found in the streets should be forfeited. In the reign of Edward II. (1309) a proclamation was made on the Sunday next before the feast of St. George the Martyr (April 23rd) that seeing people in the town caused the ordure that had been collected in their houses to be carried and placed in the streets and lanes instead of being taken to the Thames or elsewhere out of the town, and that the streets and lanes were more encumbered than they used to be, the Corporation forbade any person to permit the ordure, after it had been collected in his house, to be carried into the King's highway. Anyone breaking this regulation was liable to be amerced on the first conviction to the extent of 40*d*. and afterwards half a mark for each conviction, and he was, moreover, compelled to remove the dirt at his own expense. Another regulation made the owner of a house responsible for the state of the street, whether the nuisance was caused by himself or not. A penalty was incurred by any citizen before whose house dirt should be found, if after it had been placed there he did not immediately give information by whom it had been brought there. It seems to have occurred to those who framed the regulation that this enactment might be open to abuse, and they therefore in the same proclamation provided against such a contingency. It was enacted that if any person should have any dung carried or removed to the front of the house of any other citizen, he should be compelled to have it carried immediately from thence to *within* his own house, there to be kept a day and a night on pain of a fine of a like amount to that provided for the cases previously referred to. It appears from this that the rascality of removing dirt to the front of the house of a neighbour was to be punished in a way which is not in accord with modern sanitary teaching. This punishment, however, is not unlike others which were inflicted about the same date in the city of London; for example, a man who sold inferior and sour wine was publicly made to drink a large quantity of it himself. The refuse in the streets caused great trouble in the middle ages and the method adopted of simply putting it into the Thames naturally caused a very considerable nuisance on the river banks, so that in the reign of Edward III. (1357) the king made a complaint on the matter to the Mayor and Sheriffs of the city. His Majesty remarked that the accumulation of filth in divers places not only in the city but also on the banks of the Thames caused fumes and other abominable stenches from the corruption, by which, if tolerated, great peril would ensue as well to the persons dwelling within the city as to the nobles and others passing along the river. Wishing to take precautions against such dangers and to preserve the honour and decency of the city, the King commanded that the banks of the river and the streets of the city should be cleansed without delay and kept clean in the future, and if any persons thereafter were found breaking this regulation they were to be chastised and punished so that fear might prevent others from committing a like offence, "and this," the royal order concludes, "as you would preserve yourself safe and would avoid our heavy indignation you are in no wise to omit." This writ was proclaimed on the Thursday after the Feast of the Decollation of St. John (August 29th). In the reign of Richard II. the Common Council, by the advice of the Mayor, Aldermen, and Commonalty ordained that the ordinance in force against the accumulation of filth should be strictly enforced, that no one should throw rubbish into the kennels of the city in the time of rain, and that every officer should have power to take the carts which brought in gravel and sand and load them at their departure with the filth gathered from the kennels, so that it should be carried out of the city. This process of commandeering was, however, to be applied only to the vehicles which carted sand, gravel, and loam into the city. It is evident from these few quotations from the city records that at any rate some advance has been made towards a better regulation of the streets, although not a little yet remains to be done.

THE INFLUENCE OF ALCOHOL ON THE RESPIRATION IN MAN.

THE seventy-sixth volume of Pflügers "Archiv für die gesammte Physiologie" contains an article by Dr. H. Wendelstadt of Bonn in which he gives the results of his experiments on the action of alcohol upon the respiration in several persons with a view of determining its pharmacological value. A small gasometer was closely applied to the mouth whilst the subject was in a recumbent posture and each observation lasted 10 minutes, the quantity of air breathed being read off every 10 seconds. In some of the later experiments the number of respirations was also counted. The temperature of the room was kept as nearly as possible at 65° F. and the experiments were conducted partly in the morning, when no fatigue had been undergone, and partly on subjects who were more or less exhausted after muscular or mental effort. Wine or pure alcohol mixed with sweetened lemonade was administered in moderate doses. Thus in one case 100 cubic centimetres of sherry containing 17 cubic centimetres of alcohol, in another case 15 cubic centimetres of alcohol in lemonade, in another a pint bottle of champagne, were given, usually on a fasting stomach. In most cases much drowsiness or even heavy sleep was induced. The general results

obtained in men who were not fatigued were that in one experiment there was no alteration in the volume of air respired, in nine experiments there was a diminution, and in 54 cases there was an increase after the use of alcohol, but with much individual variation. In 29 cases in which pure alcohol was ingested seven showed diminution of the respiratory activity, but when the alcohol was taken in the form of wine only two showed such diminution while the amount of increase in every case where it occurred was greater. The difference, Dr. Wendelstadt thinks, is attributable to the presence of ethereal oils in the wine giving it its bouquet. It must be borne in mind that, although it has been found that the administration of 100 cubic centimetres of pure water does not augment the volume of respired air in a given time, yet the same quantity of water with sugar and lime-juice causes in some instances at least a slight increase. In those who are exhausted by fatigue the effects of alcohol in causing an increase in the volume of air breathed are much more marked. Now, in febrile and debilitated states of the body the condition of the nervous system resembles that of one who is exhausted by fatigue, and hence Dr. Wendelstadt's experiments corroborate the conclusion arrived at by most clinical observers that in such conditions alcohol, especially in the form of wine, having much aroma, is the best stimulant that can be given.

THE APPOINTMENT OF A COUNTY MEDICAL OFFICER FOR MONMOUTHSHIRE.

THE Local Government Act of 1888, which established county councils throughout England and Wales, entrusted to these authorities the execution of certain laws relating to public health and in order that these duties might be more satisfactorily carried out provision was made for the appointment of a county medical officer of health. Although eleven years have elapsed since the Act came into force only one of the Welsh councils has availed itself of this power, notwithstanding the fact that the greatest benefit to the counties has admittedly resulted in every instance where in England an appointment has been made. If the question of cost is put aside—and this can be a factor only in the smallest counties—it is a little difficult to understand the position of those who oppose proposals to appoint such an official. It is evident from the discussion which took place at the last quarterly meeting of the Monmouthshire County Council at Newport that a majority of the members of this body are ignorant not only of the powers which they as a council possess, but of the duties which devolve upon them. In the spring of last year the sanitary committee were instructed by the council to report as to the desirability of appointing a county medical officer of health and to advise as to the details of the appointment. The committee can hardly be accused of coming to a hasty decision, for after deliberating for nearly a twelvemonth they recommended that a medical officer should be appointed at a salary of £500 per annum with an additional £100 for travelling expenses. This recommendation was outvoted solely on the plea that a medical officer of health had "no power." If the Monmouthshire County Council, having a sense of their great responsibilities, will confer with the members of other county councils—say those of Staffordshire or of Cheshire—their views will probably undergo material change. They are doubtless already aware that every district medical officer of health is required to send to the county council copies of all his reports, but they evidently do not know that something more than the bare reception and pigeonholing of these documents is required of the county council. One section of the Local Government Act imposes upon the county council the duty of making a representation to the Local Government Board when it appears to the council from any of these reports that the Public Health Act, 1875, has not been properly put in force within the district to which the report refers or when it appears that any other matter affecting the public health of the district requires remedy. How is it possible for the Monmouthshire County Council to properly carry out this duty without the assistance of a medical officer of health? Other statutory obligations imposed upon county councils, which can only be performed in the most perfunctory manner where the services of such an official are not available, are included in the Rivers Pollution Prevention Act and the Isolation Hospitals Act. The Housing of the Working Classes Act, 1890, empowers a county council to close houses that are unfit for habitation, and the Local Government Act of 1894 enables a county council to enforce the provision of sewers and of a sufficient water-supply in rural districts; but no adequate action can be taken in these matters by county councils who have not yet appointed a medical officer of health.

THE INTERNATIONAL MEDICAL CONGRESS, PARIS, 1900.

THE Paris Executive of the International Medical Congress give notice that as there has been some misunderstanding about the sectional arrangements every member may join as many sections as he pleases for a single subscription, but that the expense will prevent every member receiving a copy of the whole 24 volumes of the Proceedings of the Congress. Each member of the Congress will receive therefore in due course: (1) a general *résumé* of the work of the Congress; (2) a volume of the Acta of the Congress; and (3) a volume containing the works of the section to which he chooses to affiliate himself. If a member has joined several sections he will receive the Proceedings of the section which he has placed first on his form of application for membership. Members of the Congress who wish to receive the whole set of Proceedings should communicate with M. Masson, the editor, 120, Boulevard St. Germain, Paris.

THE GENERAL HOSPITAL, TUNBRIDGE WELLS.

THE annual meeting of governors of and subscribers to the General Hospital, Tunbridge Wells, was held on Jan. 7th, the Marquis of Camden being in the chair. The treasurer pointed out that although the subscriptions for the past year had been above the average, yet, owing to there being a debt of £538 due from 1898, the bankers' account had been considerably overdrawn and they had been obliged to sell out some stock. A scheme for the extension of the hospital had been approved, and they were only waiting for funds to commence the work. Before the report was put to the meeting Dr. John E. Ranking, the senior physician to the hospital, said that, speaking simply as a governor and not as a member of the staff, he wished to bring forward a matter of great importance. Leave having been given, Dr. Ranking referred to some letters which had appeared, although unsigned, in the local press reflecting upon the management of the hospital. The letters had expressed great dissatisfaction with the treatment of the out-patients, who were kept waiting a very long time. Dr. Ranking also read letters addressed to him personally expressing the same views. The complaints, he said, might be ranged under three headings: first, those bringing general complaints; secondly, those alleging extravagance in the administration; and thirdly, those dealing with the delay in the out-patient service. He would only deal with the last of these and the reason of the delay, he said, was very simple—they were attempting to do modern work with antiquated machinery. The machinery at present existing was the same for all practical purposes as when he joined the staff 20 years ago and even then it was barely

sufficient. If they wished for better work they must provide more perfect machinery. We must confess that the desire to carry on work on a modern scale with antiquated machinery is a policy not confined to hospitals. But it is always a wasteful and extravagant policy and one bad from every point of view. Of whatever kind of work the output consists a policy of starvation never pays. In a hospital this policy is peculiarly hurtful and we gather from remarks made at the meeting that the staff are supposed to perform impossibilities. Mr. Elers, the treasurer, is reported as saying that in this case it was a question whether these gentlemen should not be asked to resign, but we are glad to say that this remark did not meet with the approval of Mr. Elers's hearers. Eventually a motion put forward by Dr. Ranking as follows was carried :—

That a special committee, consisting of the president, the treasurer, the mayor, the two senior medical officers, and four other governors who are not members of the committees, together with some recognised expert in hospital administration, be appointed to consider the whole question of the future administration of the General Hospital, and that after the completion of all necessary business this annual meeting be adjourned until such committee do report.

We are glad to see that the meeting arrived at these conclusions. If charges are made against a hospital it is of vital importance that they should be inquired into. If the abuses referred to do exist they should be rectified as soon as possible and if they do not then the sooner the allegations which have been made are refuted the better for everyone concerned.

TYPHOID PLEURISY.

AT the meeting of the Société Médicale des Hôpitaux of Paris on Jan. 19th MM. Souqes, Lesné, and Ravaut reported from the clinic of Dr. Chauffard two cases of typhoid pleurisy which occurred during the last epidemic of typhoid fever in Paris. Typhoid pleurisy—due to Eberth's bacillus—is rare. Labiche recently could only collect 10 cases (Thèse de Paris, 1899). In the first case reported to the society a youth, aged 18 years, had on the fourth day of an ordinary attack of typhoid fever violent pain in the lower part of the chest on the left side. There were disseminated sibilant râles and some sub-creptitant râles at both bases. The pain continued and on the twelfth day there were at the left base slight dulness and pleural friction. On the following day puncture gave exit to 10 cubic centimetres of a hæmorrhagic liquid containing the typhoid bacillus in abundance. On the twentieth day puncture gave exit to two cubic centimetres of a purulent liquid still containing in pure culture the typhoid bacillus. The liquid was replaced by two cubic centimetres of camphorated naphthol. On the twenty-third and again on the twenty-ninth day some hæmorrhagic fluid containing the typhoid bacillus was aspirated. Recovery ensued. In the second case a man, aged 31 years, entered hospital on the seventh day of an attack of typhoid fever. Some days previously he felt a sharp pain in the back especially on the right side. There were tubular breathing and large moist râles at the right apex. On the fifteenth day the patient complained of dyspnœa and the temperature which was falling rose to 105·4° F. The right lung became infiltrated from apex to base. The sputum was muco-purulent and contained pneumococci, staphylococci, and bacilli resembling Eberth's (cultures were not made in consequence of the presence of numerous saprophytes). Signs of pleuritic effusion then became evident. On puncture hæmorrhagic fluid containing the typhoid bacillus in pure culture was obtained. Recovery ensued. Pleurisy complicating typhoid fever is not necessarily due to the typhoid bacillus, but may result from an additional infection with tubercle bacilli or streptococci. Also the typhoid bacillus may co-exist in the pleura with other microbes, and then it is difficult to ascertain its individual action. In the above two cases the pleurisy supervened at the beginning of the fever; in those previously recorded it has occurred usually at the decline. As a rule a pulmonary lesion precedes the pleurisy, which possibly is also due to the typhoid bacillus. Typhoid pleurisy is more often purulent than hæmorrhagic: it may also be sero fibrinous. A fact which is difficult of explanation is that the effusion sometimes gives the agglutinative reaction and sometimes does not.

A BACTERIOLOGIST FOR THE IRISH LOCAL GOVERNMENT BOARD.

THE newly created office of bacteriologist to the Irish Local Government Board has been filled by the appointment of Professor E. J. McWeeney of Dublin. Professor McWeeney has for several years occupied the chair of Bacteriology and Pathology at the medical school of the Catholic University, Dublin, and is well known as an earnest worker on the scientific side of medicine. This appointment is of importance as marking a new departure in the history of public health administration in Ireland. To English hygienists it has long been a matter of surprise that the Irish sanitary authorities should have been so slow—some might be inclined to use the adjective "remiss"—in availing themselves of the powerful weapons of precision which bacteriological science places in our hands for the elucidation and prevention of infectious disease. In one of the series of articles on the health of Dublin which have recently been appearing in our columns our Special Commissioner took occasion to draw attention to this singular *lacuna* in the Public Health Service of the sister isle. It is satisfactory that steps have now been taken by the authorities to press bacteriology into the service of sanitation, and it is to be hoped that the chief municipalities and county councils throughout Ireland will by appointing bacteriologists speedily follow the example which has been set them by the Local Government Board.

MEDICAL REPORTS OF THE CHINESE MARITIME CUSTOMS.

THE printed and published reports of the Chinese Imperial Maritime Customs for the half year ended March 31st, 1899, are by seven contributors, five of whom write in English—namely, Mr. J. F. Molyneux of Chefoo, Dr. J. H. McCartney of Chungking, Dr. H. J. Hickin of Ningpo, Dr. B. S. Ringer of Canton, and Dr. R. J. J. Macdonald of Wuchow. The remaining two memoirs are in French; one is by Dr. A. Thoulon, of the French Navy, who sends from Longtcheou (or Lungchow) notes on bubonic plague at Ping-s'hiang (Kwangsi); the other is a sanitary report on Mongtze (or Mengtsz) by Dr. E. Reygondaud of that place. According to all these writers there was in the period under review no prevalence of epidemic disease except plague and influenza. Dr. McCartney makes a reference to the wearing of cholera belts, which he believes very often do more harm than good. He has treated several patients for chronic bowel trouble who made a rapid recovery when they discarded the belt. Part of the danger, he says, lies in the belt working up under the arms during sleep and allowing the abdomen to become chilled. With respect to maternity cases he remarks that in shoulder presentations the Chinese midwives are unable to do anything, and they invariably pull off an arm in their frantic efforts to deliver the child. Dr. Macdonald mentions that lepers in Wuchow are allowed to dwell among their own people long after the distinct development of the skin and nerve affection, but nevertheless the disease is not so prevalent as might have been expected. When spontaneous amputation of digits or leonine pression of

countenance occur the sufferer is usually banished from his home. These reports are published by the Inspectorate-General of Customs, Shanghai, and may be obtained in London from Messrs. P. S. King and Son.

THE FESTIVAL DINNER OF KING'S COLLEGE, LONDON.

IN another column will be found a report of the proceedings at this dinner which may be summarised by saying that Mr. Balfour delivered an admirable address on the claims of science upon the community. No scientific man, and we may say no really enlightened citizen, would desire to see a word altered in Mr. Balfour's excellent speech. We hope that it will be widely read, and that it will lead in the immediate future to the accomplishment of its direct object.

THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE annual dinner of this society was held at the Café Monico on Wednesday evening last. The President, Dr. J. B. Ball, filled the chair. The attendance was large, the dinner was good, and the music and speeches were appropriate. The speakers were the President, Mr. Gunton Alderton, Mr. Howard Marsh, Dr. Frederick Roberts, Mr. C. B. Keetley, Mr. Butlin, Mr. Herbert Menzies, Dr. Lamb, and Mr. H. Percy Dunn. The society seems to be the largest and most flourishing of the local societies of London, having a membership of over 500, which is still increasing. The society is based on democratic principles and does not have figure-heads, a fact which no doubt increases both its popularity and utility. While not neglecting scientific subjects it cultivates good-fellowship and takes a proper interest in the prosperity of the profession.

ALCOHOL AS AN ANTIDOTE IN CARBOLIC ACID POISONING.

IN a recent number of *Merck's Archives* (December, 1899) an editorial article is devoted to the above subject. The writer of the article observes that alcohol, as was first suggested by Phelps and Powell, is one of the best antidotes for carbolic acid poisoning. Phelps declared that he had found in alcohol a safe and sure preventive against the escharotic action of concentrated carbolic acid, which was the mischief most to be feared in cases of poisoning by the strong acid. From a careful survey of recorded cases of carbolic acid poisoning, in which over 60 grains of the poison had been taken, it appears that where no alcohol was administered the termination was in every case fatal. On the other hand, in all instances where alcohol was given the patient survived, although it is stated in more than one instance that it was given as a stimulant to prevent collapse rather than with the knowledge that it acted as a specific antidote. The article also points out that it is often difficult and sometimes impossible to get emetics to act successfully in such cases of poisoning. The method of treatment which is recommended is as follows. The patient is promptly made to drink a few ounces of whisky, brandy, or other spirit which thus acts as an antidote to the intense local action of the carbolic acid in the stomach. Immediately after this a soft indiarubber tube is passed through the œsophagus and into the stomach. A funnel is attached to its upper end and about a pint of water (more or less, according to circumstances) is poured into the stomach. The upper end of the tube is now depressed and the fluid is syphoned out. This process of washing out the stomach is repeated two or three times and in this way every particle of the poison can be washed out of the stomach. A little sodium sulphate is next administered, a dose of about one drachm dissolved in a wineglassful of water being sufficient. It may be noted that if the water used for washing out the stomach contains any notable proportion of a soluble alkaline sulphate its efficiency is increased. Moreover the small amount of it which may pass from the stomach into the duodenum and small intestine will be of use in aiding the elimination of part of the poison which has entered or become absorbed into the coats of the small intestine. The addition of a small quantity of sodium sulphate to the water used in washing out the stomach would thus be of distinct value, and the method of treatment advocated above promises to give more favourable results than are usually obtained in grave cases of poisoning by carbolic acid.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

AT the annual meeting of the General Council of the Prince of Wales's Hospital Fund held on Feb. 13th at Marlborough House, H.R.H. the Prince of Wales in the chair, the draft report for the past year was read and adopted. The receipts for 1899 were £48,536 15*s.* 4*d.*, being an increase of about £9000 over those of 1898. The total sum distributed for the year amounted to £42,000, £26,250 being annual grants and the balance donations. We congratulate the Prince of Wales and his coadjutors on their work, to which we shall make longer reference.

THE CARE AND MAINTENANCE OF NON-PAUPER LUNATICS AND THE LONDON COUNTY COUNCIL.

IT is among the merits of the London County Council that it has shown much consideration for the insane and for their responsible relatives. The case of such relatives in moderate circumstances is often extremely painful. The shock of mental illness overtaking a member of the family is sadly complicated with the financial question of his maintenance in an asylum without subjecting him to the ordeal of admission as a pauper lunatic. The London County Council has recently announced to medical practitioners that it has provided accommodation for about 60 female patients having a legal settlement in the county of London at the Manor House, Horton, Epsom, at a weekly charge as at present fixed of 15*s.*, this being exclusive of clothing and special luxuries. Full particulars can be obtained from Mr. R. W. Partridge, clerk of the Asylums Committee. This is not the first service of the sort rendered to the insane. At the London County Asylum, Claybury, Woodford, Essex, provision is made for private patients who can claim a settlement in the county of London at a charge of 30*s.* a week, and for others at a charge of £2. The London County Council, too, has not been unmindful of the higher duties of a lunacy authority—that of providing for research and investigation into the pathology of insanity. The first report of the work of Dr. F. W. Mott, F.R.S., with a preface by Dr. W. F. Collins, shows how thoroughly this work—suggested at an early stage of the history of the Council by Mr. Brudenell Carter—is being carried out.

AT the last meeting of the council of the St. Andrews Graduates' Association, which was held at 11, Chandos-street, Cavendish-square, the following resolution was unanimously adopted: "That action be taken with a view of restoring to the University the right which it so long possessed of granting the degree of Doctor of Medicine to registered practitioners of 15 years' standing who are not under 40 years of age on their passing a full and satisfactory professional examination. The Council in so doing are only seeking to place the University in the position which the University of Durham now holds, and they desire to act

without prejudice to the other Scottish universities which may wish to exercise the like power of graduation."

THE chairman and committee of the Society for Training Teachers of the Deaf and for the Diffusion of the German (pure oral) System will hold a festival dinner in aid of its Training College and School at the Victoria Hall of the Hotel Cecil, on Wednesday next, Feb. 21st. The Marquis of Londonderry will take the chair. Communications should be made to the chairman, 33, Cavendish-square, W.

AT the meeting of the Epidemiological Society which is to be held to-night (Friday, Feb. 16th) Dr. E. W. Hope, medical officer of health of Liverpool, will read a paper, illustrated by lantern slides, on Insanitary Property and Workmen's Dwellings in Liverpool.

AT the polling for the election of a new Member of Parliament for the University of London the figures were as follows: Sir Michael Foster, 1271; Dr. Collins, 863; and Mr. Busk, 586.

Mr. W. H. Power, F.R.S., medical officer to the Local Government Board, has been appointed a member of the Royal Commission on Sewage Disposal.

THE new Enfield Isolation Hospital at Winchmore-hill was opened by Sir Walter Foster, M.D. Erlang., M.P., on Feb. 10th.

FOR the week ending Feb. 8th seven fresh cases of bubonic plague, five fatal, are reported from Mauritius.

THE MIDWIVES BILL.

[*We refer our readers to the leading article on page 472, and beg that they will accede to the request therein contained.*]

THE following is the text of the Bill which was introduced by Mr. Tatton Egerton in the House of Commons on Feb. 2nd and which has been set down to be read a second time on Feb. 28th. The new matter is printed in italics and where the alterations have been made at the suggestion of the Privy Council an asterisk precedes the passage. The words "certificate" and "licence" have been transposed throughout the 1899 Bill, so that the certificate now admits to the roll, while the licence is to be granted annually by the local supervising authority.

ARRANGEMENT OF CLAUSES.

Clause.
1. Short Title and *date of commencement of Act.*
2. *Certification.*
3. Provision for existing midwives.
4. Constitution and duties of the Central Midwives Board.
5. Fees and expenses.
6. *Power to County Councils to contribute.*
7. Midwives roll.
8. Appointment of Secretary. Supplemental provision as to certificate.
9. Local supervision of midwives.
10. *Delegation of powers of County Council to District Councils.*
11. Midwives licence.
12. Penalty for obtaining *a certificate* or a licence by false representation, or acting without a certificate or a licence.
13. Penalty for wilful falsification of roll.
14. Prosecution of offences.
15. Appeal.
16. Act not to apply to medical practitioners.
17. Extent of Act.
18. Definitions.

A BILL

TO SECURE THE BETTER TRAINING OF MIDWIVES AND TO REGULATE THEIR PRACTICE.

BE it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may for all purposes be cited as the Midwives Act, 1900. *It shall come into force on the first day of April, 1901.*

2. (1) From and after the first day of January one thousand nine hundred *and two* no woman shall be entitled to take or use the name or title of midwife (either alone or in combination with any other word or words), or any name, title, addition or description implying that she is certified under this Act, or is qualified to act as a midwife unless she be certified under this Act.

(2) Any woman who, after the first day of January one thousand nine hundred and two, not being certified under this Act, shall take or use the name of midwife or any other such name, title, addition, or description as aforesaid, or shall habitually and for gain attend women in childbirth, shall be liable on summary conviction to a fine not exceeding five pounds.

(3) No woman shall be certified under this Act until she has complied with the rules and regulations to be laid down in pursuance of the terms of this Act.

(4) *No woman certified under this Act shall employ as her substitute or assistant an uncertified person.*

(5) The certificate under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts or to assume any name, title, or designation implying that she is by law recognised as a medical practitioner, or that she is qualified to grant any medical certificate, *or any certificate of death or of still-birth or to attend cases of abnormal labour, or of disease of or danger to the mother or the child.*

3. Any woman who, within two years from the date of this Act coming into operation, claims to be certified under this Act shall be so certified provided she holds a certificate in midwifery from the Royal College of Physicians of Ireland, or from the Obstetrical Society of London, or such other certificate as may be approved by the Central Midwives Board, or produces evidence satisfactory to the Board that at the passing of this Act she has been in bonâ fide practice as a midwife and that she bears a good character.

4. On the passing of this Act the President of the General Medical Council shall take steps to secure the formation of a Central Midwives Board, which shall consist of—

(1) Four registered medical practitioners, one to be *appointed*[1] by the Royal College of Physicians of London, one by the Royal College of Surgeons of England, one by the Society of Apothecaries, and one by the incorporated Midwives Institute;

(2) Two persons (one of whom shall be a woman) to be appointed for terms of three years by the Lord President of the Council; and

(3) *One person to be appointed for terms of three years by the Association of County Councils.*

After two years from the date of this Act coming into operation the members appointed under Clause 4, Section 1, shall retire, but shall be eligible for re-appointment annually. Any vacancy occurring by resignation or death shall be filled up in the case of a member appointed under Clause 4, Sections (1) and (3), by the body which appointed him, and in the case of a member appointed under Clause 4, Section (2), by the Lord President of the Council.

The duties of the Board shall be as follows:—

I. To frame rules, *subject to the approval of*[2] the General Medical Council,

(*a*) regulating the issue of certificates and the conditions of admission to the roll;

(*b*) *regulating the course of training and the conduct of examinations;*

(*c*) regulating the admission to the roll of women already in practice as midwives at the passing of this Act;

(*d*) regulating, supervising, and restricting within due limits the practice of midwives;

(*e*) *deciding the conditions under which midwives may be suspended from practice.*

II. To appoint examiners;

III. To decide upon the places where, and the times when, examinations shall be held;

IV. To publish annually a roll of midwives who have been duly certified under the Act;

V. To decide upon the removal from the roll of the name of any midwife for disobeying the rules and regulations from time to time laid down under this Act by the Central Midwives Board, or for other misconduct, and also to decide upon the restoration to the roll of the name of any midwife so removed;

VI. To issue certificates;

And generally to do any other act or duty which may be necessary for the due and proper carrying out of the provisions of this Act.

5. There shall be payable by every woman presenting herself for examination or certificate such fee as the Central Midwives Board may, with the approval of the General Medical Council, from time to time determine, such fee not to exceed the sum of one guinea. All such fees paid by existing midwives and by candidates for examination shall be paid to the Central Midwives Board. The said Board shall devote such fees to the payment of expenses connected with the examination and certificate and to the general expenses of the Board. Should these fees not equal the expenditure of the Board the deficiency shall be supplied from the respective local county funds, in proportion to the number of midwives licensed to practise in the said county.

6. *(1) *A county council shall be empowered to pay out of the county funds as general expenses incurred by them in the execution of their duties under the Local Government Act, 1888, any sum from time to time required to make good a deficiency in the funds of the Central Midwives Board.* (2) *Such expenses as the Treasury may certify to have been necessarily incurred by the General Medical Council in the execution o this Act shall be defrayed out of money provided by Parliament.*

7. There shall be a Midwives Roll containing:—

(1) The names of those midwives practising at the date of the passing of the Act who have been certified to practise under the Act;

(2) The names of those not already in practice as midwives at the passing of the Act, but who have been certified to practise under the Act.

The entry on the roll shall in every case indicate conditions in virtue of which the certificate was granted.

8. The Central Midwives Board shall appoint a secretary who shall be charged with the custody of the roll, **and every person so appointed shall be paid such salary as the Board shall think fit and shall be removable at the pleasure of the Board.*

A copy of the Midwives Roll for the time being shall be evidence in all courts that the women therein specified are certified according to the provisions of the Act; and the absence of the name of any woman from such copy shall be evidence, until the contrary be made to appear, that such woman is not certified according to the provisions

[1] For "elected."
[2] For "for approval by."

of this Act. Provided always, that in the case of any woman whose name does not appear in such copy a certificate under the hand of the secretary of the entry of the name of such woman on the roll shall be evidence that such woman is certified under the provisions of this Act.

9. Every county council * *or council of a county borough* throughout England and Wales shall, on the date of this Act coming into operation, *constitute the local supervising authority over midwives*[3] within the area of the said county or county borough. It shall be the duty of the local supervising authority—

(1) *To issue licences.*
(2) To exercise general supervision over all midwives practising within the prescribed area in accordance with the rules to be laid down under the provisions of this Act.
(3) To investigate charges of malpractice, negligence, or misconduct on the part of any midwife practising within the district, and, should a *primâ facie* case be established, to report the same to the Central Midwives Board.
(4) To suspend any midwife from practice, in accordance with the rules to be laid down by the Central Midwives Board **and approved of by the General Medical Council*, if such suspension appears necessary to prevent the spread of infection.
(5) To report at once to the said Board the name of any midwife practising in the district convicted of a misdemeanour or felony.
(6) During the month of January of each year to supply the secretary of the Central Midwives Board with the names and addresses of all midwives practising in the district and to keep a current copy of the Midwives Roll, accessible at all reasonable times for public inspection.
(7) To report at once to the Central Midwives Board the death of any midwife or any change in the name or address of any midwife in the district, so that the necessary alteration may be made in the roll.

10. **A county council may delegate, with or without any restrictions or conditions as they may think fit, any powers or duties conferred or imposed upon them by or in pursuance of this Act, to any district council within the area of the county.*

11. *No woman shall* hold herself out as a practising midwife in any county or *county borough* without having previously obtained from the local supervising authority a licence enabling her to practise therein, which licence shall be granted on proof by the woman that her name is on the Midwives Roll. The licence shall remain in force till the thirty-first of December following, and shall be revocable at any time by the local supervising authority in case the holder be proved to the satisfaction of the Central Midwives Board to have infringed any of the regulations framed under this Act. The licence shall be issued on payment of a fee of *one shilling*,[4] it shall only be available in the county for which it is issued, and it shall be renewed annually on the *first day* of January.

12. (*a*) Any woman who procures or attempts to procure a certificate or a licence by making or producing, or causing to be made or produced, any false or fraudulent declaration, certificate, or representation, either in writing or otherwise, and any person assisting her therein shall be deemed guilty of a misdemeanour, and shall on conviction thereof be liable to a fine not exceeding five pounds, or to be imprisoned, with or without hard labour, for any term not exceeding two months.

(*b*) Any woman, whether certified under this Act or not, who, after the first day of January one thousand nine hundred and two, shall hold herself out as a practising midwife or shall practise in any county or *county borough* without having previously obtained from the local supervising authority a licence enabling her to practise therein shall be deemed guilty of a misdemeanour, and shall, on conviction thereof, be liable to a fine not exceeding two pounds or to be imprisoned, with or without hard labour, for any term not exceeding one month.

(*c*) But a midwife shall not be guilty of a misdemeanour under this section by attending on an emergency a woman in childbirth in a county other than that for which she holds a licence provided she has within a reasonable time given notice of having so acted to the local supervising authority of the county.

13. *Any person* wilfully making or causing to be made any falsification in any matter relating to the roll of midwives shall be deemed guilty of a misdemeanour and shall be liable to a fine not exceeding ten pounds, or to be imprisoned, with or without hard labour, for any term not exceeding three months.

14. Any offences under this Act punishable on summary conviction may be prosecuted by the local supervising authority, and any fine under this Act recoverable on summary conviction may be recovered in manner provided by the Summary Jurisdiction Acts.

The expenses of any prosecution shall be defrayed out of the funds of the county in which the prosecution takes place.

15. (1) An appeal shall be allowed to the Privy Council should any disagreement arise between the General Medical Council and the Midwives Board respecting the carrying out of the provisions of the Act or any of them.

(2) Where any woman deems herself aggrieved by any order, conviction, judgment, or determination of or by any matter or thing done under this Act by any court of summary jurisdiction, such woman may appeal therefrom to the court of quarter sessions.

16. Nothing in this Act respecting midwives shall apply to legally qualified medical practitioners.

17. This Act shall not extend to Scotland or Ireland.

* *The General Medical Council shall act by the English Branch Council, which for all purposes of this Act shall occupy the place of the General Medical Council.*

18. In this Act—

The term "midwife" means a woman who undertakes for gain, *and in accordance with the provisions of this Act*, to attend women in childbirth.

"Midwives roll" means a roll of midwives kept in pursuance of this Act.

"Central Midwives Board" means the Board constituted under this Act for the purpose of carrying out the provisions of this Act.

[3] This clause formerly provided for the appointment of "the medical officer of health or other registered medical practitioner or practitioners" as the local supervising authority within the county area.

[4] In the previous Bill the certificate was issued free.

THE WAR IN SOUTH AFRICA.

WE regret to say that from a military point of view there has been nothing of a favourable nature to chronicle during the past week. The progress of the war only serves to bring out more strongly the great natural strength of the Boer positions and the extraordinary scope of the preparations which they had been making for so long beforehand. To take only one point in illustration. When one regards the enormous amount of labour entailed by the transport and placing of numerous heavy guns of position at so many elevated points in a mountainous country we are almost tempted to go back to the time of the Pharaohs and the building of the pyramids in Egypt for a similar expenditure of physical force. The work must have been going on for some time, and if, as reported, 100 guns have been mounted between the Tugela and Ladysmith it is a marvellous performance and must have required a very large amount of native labour and a great number of horses and oxen for its accomplishment. It certainly seems surprising that we should apparently have been so ignorant of all that was being done. We are now reaping, at any rate, a severe punishment for our ignorance or negligence in the past.

Apart from the vacillating and contradictory policy which has more or less characterised successive Governments in dealing with South Africa in the past and the miscalculations which have taken place in the present, the absence of any thoroughly reliable Ordnance or military map has been a cause of grave embarrassment. It appears that towards the end of 1884 the officer commanding the Royal Engineers in Natal proposed that a survey should be made of the passes over the Drakensberg, but this, for political reasons, was not then considered desirable, lest, we suppose, it should give umbrage to the Transvaal Government. Taken altogether, our patience, and forbearance, and desire to avoid all provocation have cost this nation a large loss of life and treasure, and have given rise to several military movements which have proved futile and need not have taken place. It is now sufficiently obvious to everyone that the war at its outset gave rise to situations and to political and other complications that were unexpected and unforeseen. The plan which Sir Redvers Buller was known to have drawn up when he reached Cape Town had consequently to be temporarily set aside. It or a plan of a similar nature is now to be carried out. The movements upon the frontier of the Orange Free State should draw off the Boer forces from the vicinity of the Tugela and Ladysmith and afford General Buller a much more favourable chance of relieving the garrison of the latter place. The beginning, middle, and end of the requirements of a large army in the field may be said to be transport, of which ambulance and sick transport form an essential part. The transport arrangements have probably now been completed and the military rôle of Lord Roberts and Lord Kitchener has now to come. The undertaking in South Africa is a formidable and anxious one, but a nation that emerged successfully out of the Crimean War and the Indian Mutiny may be expected to do the same on the present occasion. The resources of the empire are immense and the determination, enthusiasm, and energy of its people are unabated.

But to turn to matters of a medical nature. It is astonishing how difficult it is to guard any system intended for the relief of the wounded of belligerent armies from abuse. The modern medical system in war is, as we have repeatedly said, about the best that could be devised for the purpose; but the first collection and dressing of the wounded have, we learn, given rise to some misunderstanding and recrimination on one side or the other. Some time ago General Uränje intimated that he would pay no further attention to the Red Cross when it appeared in the firing line. The appearance of ambulances in the fire zone is open to the objection that they may be used, on the one hand, to afford protection to men firing near them, and, on the other, to enable ammunition to be carried, under cover of the Red Cross, to the fighting ranks. Moreover, we have had allegations of the improper treatment of the Geneva flag, just as we have of the unscrupulous use of the white flag. It is probable that some of these allegations as regards firing on ambulances and

hospitals have been altogether unfounded. The firing was either unavoidable or occurred in mistake under the excitement of the battle-field. Allowances must consequently be made and explanations may be forthcoming in regard to a number of such occurrences, but it is quite a different matter when unfounded and mischievous reports are circulated in reference to the conduct of the military medical service and its hospitals. There are to be found, we regret to say, on all such occasions as the present, people who are ready to indulge in an unworthy spirit of fault-finding and adverse criticism which is almost always ungenerous and commonly unjust, or is the result of superficial and insufficient investigation. It was so, it will be remembered, in the Egyptian war of 1882, and attempts of the same kind have been made during the present war in which we thought it was universally admitted that the medical arrangements and the conduct of medical officers have been admirable. We are glad to see that Mr. Wyndham, in reply to Dr. Farquharson, elicited from the Under Secretary for War the other day in the House of Commons the most satisfactory reply. Lord Roberts had telegraphed that there was no real foundation for reports reflecting on the hospitals at the Cape. He was perfectly satisfied with all arrangements for the reception and the treatment of the wounded, but the quality of the cooking was indifferent for the first week. Nothing more than this can be complained of and this was rectified as soon as possible. Sir Redvers Buller says: "One of the Natal papers is attacking the management of the military hospitals, and as some of the false and ridiculous statements may cause anxiety at home I think it right to say that Mr. Treves assures me that there is no possible ground for complaint and that I may rest satisfied that all the medical arrangements are completely satisfactory to him. I pressed him if he could suggest improvement, and he said he could not. I have given the matter every consideration and can only express my admiration of the arrangements made by Colonel Gallwey and the Royal Army Medical Corps, and Mr. Treves assures me that he entirely agrees with me."

In reference to some allegations that had been made about another hospital, after the matter had been carefully investigated by a court of inquiry, Sir William Stokes stigmatised the charges as false and cruel. The military hospitals are throughout working well and we are assured that the medical officers—the military and the civil element alike—are performing their duties with great zeal and devotion and harmoniously coöperating to the advancement of one end only—viz., the relief and comfort of the sick and wounded by every means in their power. It is but right that the public, and especially those who have their relatives and friends under treatment, should know this. There is no stint of anything that care and forethought can supply. It is gratifying to know that our success in hospital and medical administration in modern war has been progressive and that the measure of this progress has never been greater than on the present occasion.

There is much of that scourge of modern war, enteric fever, present in South Africa, as may be seen from the returns of fatal cases; and the prevalence of this disease, as might have been expected under the circumstances, is most marked at Ladysmith. Dysentery and other less fatal forms of fevers and occasionally respiratory diseases make their appearance, but the British force in the field as a whole is healthy. The climate is beautiful but treacherous at this season, owing to its being hot by day and chilly at night and in early morning, and this predisposes to dysentery, but there is happily very little dew. The air is pure and wounds and surgical cases do well in South Africa. Altogether it may be said that the theatre of war is in a healthy region, that the supplies provided for the army in the field are good, and that our soldiers are well clad and fed—although this cannot, we fear, be said of the feeding of those in the besieged garrisons. As our readers are aware, large bodies of troops with the necessary hospital accommodation are leaving this country every week and Lord Roberts must by this have a big force at his disposal. In the additional estimate for £13,000,000 we notice that £70,000 are to be appropriated to the medical establishment vote. The original estimate for pay and allowances of this establishment was £305,800. This was supplemented on Oct. 17th by £50,000, so that the present estimate brings the total to £425,800.

With regard to the Government's scheme for enlarging the army there is to be a considerable addition to the Regular Army and the Militia, the Yeomanry will be gradually turned into mounted infantry, and the Volunteer force is to be further developed and more fully equipped. This will, of course, necessarily entail a large and corresponding addition to the military medical services of the country.

THE IMPERIAL YEOMANRY HOSPITAL: INSPECTION OF PERSONNEL BY THE PRINCE OF WALES.

After inspecting the Imperial Yeomanry at the Albany Barracks on Friday morning, Feb. 9th, His Royal Highness the Prince of Wales paid a visit to Devonshire House for the purpose of inspecting the *personnel* of the Imperial Yeomanry Hospital. Besides the Duke and Duchess of Devonshire, among those present were Princess Louis of Battenberg, Lady Georgiana Curzon, Lady Chesham, the Countess of Warwick, Viscountess Valentia, and many of the ladies of the committee of the Imperial Yeomanry Hospital Fund. Sir Nigel Kingscote was in attendance on the Prince of Wales, and there were also present General Trotter, Surgeon-General Jameson, Director-General of the Army Medical Staff, and Surgeon-General Muir, A.M.S. The guests were received by the Duchess of Devonshire at the entrance to the ballroom at the head of the grand staircase, after which the men of the St. John Ambulance Corps were paraded in the ballroom and inspected by the Prince, who addressing them said: "I am very glad to see you all here to-day and I know you will all do your duty. I hope you will have a good passage out and a safe return home in good health." Cheers were then given for the Prince and Princess of Wales. The nurses were afterwards introduced to the Prince of Wales who briefly conversed with some of them. All the medical staff were also presented to His Royal Highness. On Saturday, Feb. 10th, Colonel A. T. Sloggett, R.A.M.C., the military commandant and principal medical officer of the Imperial Yeomanry Hospital, with Mr. Fripp, M.V.O., the chief civilian medical officer, left Waterloo for Southampton and the following members of the medical staff left Waterloo on Monday, Feb. 12th: Dr. J. W. Washbourn, Mr. Raymond Johnson, Mr. F. Newland-Pedley, Mr. L. V. Cargill, Mr. H. A. Ballance, Mr. W. Turner, Mr. J. F. Hall-Edwards, Mr. W. C. G. Ashdowne, Dr. J. B. Christopherson, Dr. Andrew Elliott, Dr. H. W. Saunders, Mr. L. E. C. Handson, Dr. H. W. Bruce, Mr. A. P. Parker, Mr. G. E. Richmond, Dr. R. T. Fitzhugh, and Mr. Barclay Black. The following gentlemen who are accompanying the staff of the hospital as dressers went also: Mr. J. Atkins, Mr. A. Ayre Smith, Dr. C. W. Breeks, Mr. A. de V. Blathwayt, Mr. D. J. Greenfield, Mr. M. B. Hay, Mr. A. Pearson, Mr. A. C. Ransford, Mr. Owen Richards, and Mr. E. N. Thornton. On both occasions there was an enthusiastic demonstration. The medical men for the base hospital have now all left England and arrangements are being made with regard to the field hospital. In a circular signed by Lady Beatrice Chesham and Lady Georgiana Curzon the following passage occurs:

> When we think of the valuable lives that will be risked, it is surely most important that they should be provided with full hospital accommodation complete with every modern appliance and comfort. To carry out this scheme a Ladies' Committee is being formed and we ask all to respond liberally to our call. American ladies have fitted up and despatched the hospital ship *Maine*. Cannot English ladies and—may we suggest it?—in conjunction with those directly connected, by their great properties, with South Africa, fit up and despatch to the front a most complete field hospital for our brave Yeomanry, for whom we believe no special medical provision has yet been made?

Further funds are urgently needed to maintain the field hospital and bearer company. Anyone willing to support or assist this scheme is invited to communicate with or to send a subscription to Viscount Curzon, M.P., 20, Curzon-street, London, W., or to Ludwig Neumann, Esq., 11, Grosvenor-square, London, W.

NETLEY HOSPITAL: THE WAR AND THE GREAT BASE HOSPITAL OF THE ARMY.

The present staff of Netley Hospital consists of the principal medical officer, Colonel W. J. Charlton, and his two secretaries, the senior of whom is in command of the corps at Netley and the junior the adjutant; of an officer in charge of each division of the hospital—Lieutenant-Colonel W. E. Webb, M.D. Aberd., being in command in the medical division, with a staff of one major and one subaltern of the Royal Army Medical Corps, one surgeon-captain of the Militia

Medical Staff Corps, and one civilian serving under him; and Major W. Dick, M.B., F.R.C.S. Edin., of the surgical division, with one major, one captain, and one subaltern of the Royal Army Medical Corps, one subaltern of the Militia Medical Staff Corps, and four civilian surgeons as his assistants. Serving under Miss Norman, the lady superintendent of nurses, are 11 nurses, mostly belonging to the Army Reserve of Nurses, while the men of the Royal Army Medical Corps who have been sent to the front are replaced for the most part by militia orderlies.

As may easily be imagined the war in South Africa has brought a busy time to all the departments of the great base hospital of the army—the Royal Victoria Hospital, Netley. While the medical and surgical divisions of the hospital are already growing full of the sick and wounded which arrive in a steady stream in transports from South Africa the other departments of the great institution are no less busy—indeed, are working at high pressure. In the laboratories of the Army Medical School important work is being done in connexion with the war. On the hygiene side, presided over by Colonel J. Lane Notter, M.D. Dub., and his assistant Major W. Horrocks, M.B. Lond. Analyses of food stuffs are of frequent occurrence and the testing of the properties of filters for the front has occupied much attention—those recommended being filters on the Pasteur-Chamberland principle, offered to the Government by Messrs. Slack and Brownlow, who have expressed their ability to supply as many as 1000 within a very short period. On the pathological side, under the guidance of Professor A. E. Wright, M.D. Dub., large quantities of anti-typhoid vaccine are being manufactured and despatched both direct to South Africa and to the different transports as they leave the ports, while during the last few days 500 doses of diphtheritic serum were suddenly requisitioned and despatched to South Africa.

In the divisions of the hospital about 1000 men have been admitted from South Africa, of whom 280 have already been discharged to convalescent homes or on furlough, or to return to the front—a privilege for which a large number of the men are anxious. A few days ago there were from the front 357 medical and 329 surgical cases in hospital, while the pressure in the latter division has already been sufficient to necessitate that wards in the B Section of the medical division should be placed at the disposal of officers doing duty on the surgical side. For obvious reasons the greater number of the men who are admitted are convalescent or have made considerable progress on the road to recovery. The larger number of men are able to march from the railway-station to their wards, and it is only on the medical side that there are at present many cases of great gravity. In this division it is felt that the strain which the campaign must of necessity bring can scarcely be said to have commenced, but it is expected that when Kimberley and Ladysmith are relieved the number of serious medical cases will be very great indeed and will tax the resources of the hospital to its utmost. The diseases which have struck down our soldiers in South Africa are those which were expected from previous experience gained in our campaigns in tropical and semi-tropical countries—viz., sunstroke, dysentery, rheumatism, and enteric fever. We give them in the order of their importance as has been so far revealed by the present campaign. On the surgical side of the hospital we are struck by the small size of the wounds made by the Mauser bullets, by the excellent way in which the wounds have for the most part healed, leaving scarcely any scars, and by the extraordinarily small amount of damage to organs and to life which wounds in what have hitherto been regarded as vital parts, have often caused. In one case—that of Private Coulter of the Scots Guards—a bullet entered on the left side of the neck and passed out near the axillary border of the right pectoralis major muscle. From the history of the case the œsophagus must have been wounded and there is now an aneurysmal varix of the lower part of the right carotid and internal jugular vein, yet with the exception of a dilated right pupil and the physical signs of the varix the man now appears to be in good health. In another case—that of a man named Coutts, who has now been sent to the Duke of Richmond's convalescent home—the ball passed across the neck behind one carotid sheath and in front of the other, fracturing the thyroid cartilage. In this case the voice has not been lost. Private Umney, who is now quite convalescent, was shot by a Mauser bullet which entered above the outer part of the left eyebrow and traversing the centre of the face came out through the right malar bone. He was wounded at the Modder river and is now perfectly well save that he suffers from diplopia and has lost the sense of smell. Lodged bullets have not been frequently met with, and there is one patient in the hospital with a round ball embedded in the head of the humerus. A sergeant in the King's Own Light Infantry has a ball lying on the right side of the diaphragm about two inches from the spine which now causes him no inconvience. He received his wound at Graspan. The entrance wound was in the second right intercostal space, and he suffered from hæmorrhage from the mouth for five days. In both these cases the bullets have been localised with the x rays.

Another circumstance which at once strikes the surgeon is the large number of men who have been sent home after perforating wounds of the thorax, abdomen, and even of the skull, who are now convalescent. In no case of perforating wound of the abdomen so far admitted to the hospital was laparotomy performed in South Africa. This class of cases is well exemplified by that of Driver Cameron of No. 7 Field Battery, who was shot at Colenso while trying to recover the guns and bring them out of action. In his case the ball entered in front of the head of the right humerus and passed out on the left side of the fifth dorsal vertebra. He suffered from severe bleeding from the lung. In the case of Private Clark who was shot at Colenso at a distance of about 200 yards the ball entered just below the left sterno-clavicular articulation and came out well above the inferior angle of the scapula on the same side, but as his arm was raised at the time the latter bone was not touched. Private Taylor of the 2nd King's Own Light Infantry was wounded in the abdomen, the ball passing in at the margin of the right ribs and out in the loin near the margin of the right kidney. In the case of Private Kerr the ball passed through the pelvis, entering above the right pubes and passing out on the inner side of the right tuber ischii. There is no history of bladder trouble. In one patient a ball passed through the penis, scrotum (wounding the testicle), and thigh, emerging in the right buttock; in another case, that of a sergeant of the Grenadier Guards, the ball passed through the left testicle and right thigh. Wonderful have been the escapes of the great blood-vessels. In Private Smith of the 2nd Seaforth Highlanders a bullet entered behind the right external carotid vessels behind the angle of the jaw and came out through the left side of the inferior maxilla, removing the first lower bicuspid. Here the ball, of course, passed through the tongue and the man almost died from hæmorrhage, but all that now remains are the scars and a very slight occasional lisp. On several patients marks have been observed on the skin which can only be explained by the theory that they are due to scorching by bullets in their flight and in one case—that of a spent ball—to a burning effect on its lodging against the skin.

While every care and attention are being given inside the hospital to those who have already arrived great preparations are being made for the easy transport and further accommodation of those about to come home for treatment. As far back as the year 1875 Her Majesty the Queen made inquiries as to the method of transport of patients to the hospital and suggested that the railway line might be continued from the invalid station at Netley to the actual precincts of the hospital buildings. On one of her visits last year after the Omdurman campaign the Queen again made similar inquiries, which resulted in the present activity in the engineering department of the staff, and in the continuation of the line from the old invalid station to the back of the hospital in close proximity to the military chapel. The new line, which is about three-fourths of a mile long, will be completed by the end of March provided that open weather prevails and will do away with the necessity of wheeled transport; for the new station will partly occupy the site of the present road at the back of the hospital and from it the patients will be moved into the lower corridor and to the left under a covered way.

As the maximum number of patients which the hospital buildings are able to accommodate is between 1000 and 1100 steps are being taken to provide for the convalescent men in huts outside the hospital. The pattern of hut selected is known as the "Doecker hut" and of these 30 of different sizes have been placed at the disposal of the Government by the Red Cross Society and are now being erected under the orders of Captain Stevens, R.E. The huts are of German or Austrian manufacture and some of those now erected are said to have been intended originally for

the Russian Government. The average cubic space in the huts is about 7800 feet and they are intended to house on an average 10 men each or a total of 300 or rather more. The walls are made of a double layer of felted paper with a cavity of three-quarters of an inch between, with wooden supports, and are said to be fireproof inside and waterproof outside. The huts are constructed with sloping roofs and are well lighted and ventilated. Those who know them, however, say that they are cold in winter and very hot in summer, but in order to decrease the temperature during the latter season portions of the sides are made to lift up and thus form shaded open doors. The huts are to be warmed with the "Magnet" slow combustion stoves, of which there are to be two in each. The floor of each hut, which is made of wood, is to be covered with linoleum to prevent draughts and is raised off the ground about a foot, but the cavity thus formed is to be boxed in, which will increase the warmth in cold weather. It is considered probable that it will be necessary to cover each hut with a canvas fly during the hot summer months. Each hut is provided at one end with a small separate room in which there is a dry earth closet and it is intended to erect tubs containing sawdust to act as urinals, the contents of which will be daily destroyed by the cremator. These huts are being erected on the high ground at the back of the hospital and placed in three rows of 10 each, a space of 30 feet in each direction being left between the huts, with a central road of 60 feet in width. Gravel paths have been laid in all directions between the buildings and the camp already presents a smart appearance. The huts have one great advantage, viz., that they are portable and fairly easy to erect by trained men who understand them, but the cost of the latter process is rather considerable. The interior decoration of the huts has been undertaken by Mrs. Stevens, who is being aided by many local friends and the wives of members of the Netley military staff.

While activity thus reigns in the hospital and its vicinity much useful work is being done by the officers' wives in providing for the families of the men sent to the front and for the near relatives of the seriously wounded men who are summoned to Netley to be near the sufferers. A very perfect organisation exists for these purposes in the Soldiers and Sailors Families Association. Nor has the comfort of the men of the Royal Army Medical Corps who have been sent to the front been forgotten. A fund was started by Mrs. Charlton, the wife of the principal medical officer, to provide extra clothing and comforts in the shape of tobacco, pipes, &c., for the men and has been well responded to. On Saturday last the first consignment of these goods was sent out to South Africa and we are glad to hear that further supplies will be sent out at intervals by the larger London committee, of which a notice has appeared in our columns, and which will ably second and further develop the movement which Mrs. Charlton and the ladies of the Netley staff so ably inaugurated. The number of men of the corps with the eight divisions already mobilised which have arrived or are now on their way to South Africa is some 3000. The men with the fourth division are locked up in Ladysmith and will have to wait, we fear, for their presents from home which are now on their way to the men with the first three and fifth divisions, while the boxes for the men with the divisions more lately sent out are soon to follow. We hear that a philanthropic gentleman in the north of England has sent a quarter of a pound of tobacco and a pipe to each man of the corps in South Africa as an independent present and that a large part of the consignment has already been received.

The Army Medical School shall open on March 1st instead of as hitherto on April 1st, and if the war be not brought to a speedier termination than is at present anticipated the young medical men so soon to commence their military career may find themselves at the front immediately to replace the waste inevitable to such a campaign as the empire is now involved in.

ROYAL VISIT TO NETLEY.

On Tuesday, Feb. 6th, H.R.H. Princess Christian paid a visit to the sick and wounded soldiers under treatment in the Royal Victoria Hospital. The sun was shining brilliantly when the Princess, accompanied by her daughter, Princess Victoria, and attended by Colonel Donald Brown, Equerry in Waiting, crossed over from Cowes to the mainland on board the Royal yacht *Alberta*. The yacht was brought to anchor off Netley pier, a steam launch being employed to land the Royal party. At the head of the pier the Princess was met by Colonel W. J. Charlton, Principal Medical Officer, Netley, and by Colonel W. B. Creagh, Assistant-Adjutant-General. After the formal introductions the party were escorted to the base of the pier, where they entered the Hon. Mrs. Eliot Yorke's carriage and drove with her to the main entrance of the hospital. Here the Princess was met by Miss Norman, the lady superintendent of nurses, and by Lieutenant-Colonel W. E. Webb, R.A.M.C., Major W. Dick, R.A.M.C., and other members of the present military and civil staff of the hospital. Both the medical and surgical divisions of the hospital were in turn visited, the former being under the command of Lieutenant-Colonel W. E. Webb, R.A.M.C., and the latter under that of Major Dick, R.A.M.C., who respectively explained what was necessary to the Royal visitors. The convalescent patients were drawn up in line in the corridors and were spoken to by the Princesses as they passed on their way to see the more serious cases in the wards. Each of the divisions of the great hospital is divided into A and B sections; and all in turn were visited. The surgical patients were shown to the Royal visitors first, the Princesses going from bed to bed, speaking words of comfort and sympathy and distributing a profusion of beautiful flowers which had been specially sent by Her Majesty the Queen and which were brought off the *Alberta* by some of the crew. The Princesses showed much interest in the young drummer, John Dunn, of the Royal Dublin Fusiliers, who was acting as bugler at Colenso, and who, when his right arm was disabled, transferred his bugle to his other hand and refused to quit the fighting line. Among the patients were several men who have been recommended for the decoration for distinguished service in the field. On the day on which the Princesses visited it the hospital contained over 650 men from South Africa besides some 150 men from other parts of the Queen's dominions. The Royal party remained in the hospital for about an hour and a half, at the end of the visit returning to the pier and re-embarking for Cowes.

HOSPITAL ACCOMMODATION FOR THE SICK AND WOUNDED FROM SOUTH AFRICA.

The following is a continuation of the list published in THE LANCET of Feb. 10th:—

	Beds.
Wolverhampton and Staffordshire General Hospital ...	10
Royal Southern Hospital, Liverpool	12
Queen's Hospital, Birmingham...	—*
Charing Cross Hospital	20
Charing Cross Hospital Convalescent Home...	30
St. Mark's Hospital for Fistula	6
Royal Lancaster Infirmary	5†
Northampton General Infirmary	10
Convalescent Home, Hunstanton	40
Paisley Eye Infirmary	8

* As many beds as may be available.
† As many more as may be available.

DENTAL SURGEONS FOR THE ARMY IN SOUTH AFRICA.

BY MR. F. NEWLAND-PEDLEY,
DENTAL SURGEON TO THE IMPERIAL YEOMANRY HOSPITAL.

When the staff of the Imperial Yeomanry Hospital was being appointed I was asked by Mr. Fripp if I would serve. I said "Yes," and have devoted the interval to collecting a suitable equipment. The difficulty has been to decide on what lines the appointment could best be held. In round numbers there will be an army of 150,000 troops in the field and a large percentage of head injuries are reported, which can be explained by the peculiar nature of Boer warfare in which fighting under cover is the leading feature. A dental surgeon would be very useful as a consultant, especially in cases of fractured mandible, but his services are not less required by thousands of patients who must be suffering from neuralgia, tooth abscess, and diseases of the jaw consequent upon a life of exposure in a climate where sudden changes of temperature are common. I read that at the Modder river there are more complaints about dental suffering than about typhoid fever and dysentery. One feels compelled to face the question, "What can one dental surgeon do for an army?" Of course, all that he can do is to go prepared for any work that falls to

his lot, leaving the extent of his duty to shape its own course.

With this determination I went to one of the chief instrument makers in the dental branch of the trade and bought everything that I thought might be needed for three operators engaged in the work of ordinary dental practice. I purchased two operating chairs and took a third from home. I also provided myself with the tools, appliances, and materials that might be required by two or three dental mechanics in making splints and mechanical contrivances for cases of mandibular and maxillary fracture. Messrs. Ash and Sons treated me with very great liberality and let me have everything which I required, excepting precious metals, at a discount of 50 per cent. Then arose the question of obtaining a continuous supply of nitrous oxide gas. I wished to take 5000 gallons with me. There is rather a strong prejudice in the shipping trade against carrying the iron cylinders that contain the liquid gas; some firms seem to be more afraid of laughing gas than of ammunition. Even where the matter of transport was satisfactorily settled there was the heavy expense of the bottles to be considered, but Messrs. Ash and Sons solved the difficulty by lending me the bottles. The Imperial Yeomanry Hospital undertook the cost of gas, oxygen, and anæsthetic apparatus. By the time my things were packed there were only 48 hours before the *Majestic* was to sail, so I had to take everything as my personal luggage. I had to send it in a pantechnicon van to Waterloo Station. There were nearly 20 parcels weighing about two and a half tons.

Since I accepted the appointment I have been arranging for a supply of skilled assistants if they should be required. About 15 of my pupils have volunteered to sail at short notice if wanted. Each of them will take his own set of instruments and dental engine. They would sign for six months certain, expecting a free voyage out and home, with maintenance within the hospital to which they may be attached. Some are qualified men, some are students, but they can all do a day's work in the conservation room or in the laboratory, and can, under instruction, make any splints and appliances wanted. The Royal College of Surgeons of England have consented to recognise six months' service in hospital at the seat of war as the equivalent of the ordinary curriculum, provided that the student shall produce satisfactory evidence concerning the manner in which the time has been spent.

From the foregoing rapid sketch it will be seen that with my strong reserve of skilled assistants I hope to meet the requirements of the Imperial Yeomanry Hospital, and if it be desired to send small efficient contingents of skilled assistants to the great camps and hospitals in South Africa. The matter beyond this point must depend on what the authorities wish to be done. F. NEWLAND-PEDLEY.

AMONGST THE BOER WOUNDED AT ORANGE RIVER:

NOTES BY MR. S. W. F. RICHARDSON, M.B., B.S., B.Sc. LOND., F.R.C.S. ENG.,

CIVIL SURGEON TO HER MAJESTY'S FORCES IN SOUTH AFRICA, ATTACHED TO THE CAPE FIELD HOSPITAL, ORANGE RIVER.

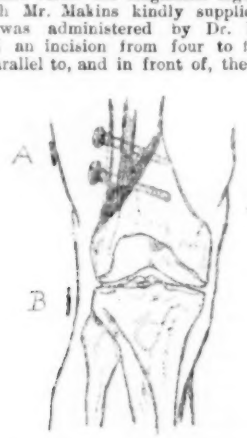
Amongst the Boer wounded admitted into the Cape Field Hospital under the command of Major J. H. Greenway, R.A.M.C., stationed at Orange river, were many cases of unusual interest, especially owing to the fact that they were examples of gunshot wounds caused by Lee-Metford bullets. Amongst those who came under my care were wounds of almost every region of the body. In describing the details of the following cases I would mention that their chief interest lay in that they were treated in a field hospital and consequently the surgeon had to combat all the difficulties necessarily following upon operations performed under such circumstances. We possessed at Orange river, however, the great advantage of having at our disposal the constant advice and assistance of Mr. Makins, whose skill and judgment were freely placed at our disposal.

Besides the following cases, which are described in detail, were many other interesting cases of gunshot wounds, including three fractures of the left of the femur, one fracture of the humerus, one fracture of the clavicle, three fractures of the radius, and two fractures of the tibia, besides four cases of penetrating wounds of the knee-joint without fracture. There were also three interesting cases of penetrating wounds of the abdomen—in one patient the bullet passed transversely through the right lobe of the liver—and all three are satisfactorily recovering.

CASE 1.—A Transvaal Boer named Wergotini, aged 36 years, was shot at Modder river on Dec. 8th, 1899, and was admitted into the Cape Field Hospital at Orange river the next day. He did not remember anything before the operation was performed, but a first field-dressing was applied to the wound when he arrived at Orange river. On admission he was semi-conscious, but easily roused. His pupils were equal and acted to light. There was much bruising about the supra-orbital regions and slight sub-conjunctival ecchymosis, but no paralysis. The temperature was 99° F. The aperture of entrance of the bullet, which presumably was a Lee-Metford, was situated three inches above the centre of the left eyebrow; it was circular and of about the size of a threepenny-piece, and its margin was somewhat inverted. Around the skin aperture a slightly larger opening in the bone could be felt with a definite margin. The aperture of exit was situated three inches above the outer end of the right eyebrow and was slightly larger and more ragged than the aperture of entrance, and the underlying bone could be felt to be much fragmented over a small area in this region. From both openings, especially from the exit wound, escaped a blood-stained discharge mixed with flakes of brain-matter. No marked depression of bone could be felt at either opening, each of which was quite clean and not inflamed. The operation was performed on Dec. 9th. Chloroform was administered and a semilunar periosteal flap was turned down, with its base at the eyebrows, the flap including the whole frontal region of the scalp. The apertures in the frontal bones were thus disclosed. The aperture of exit was twice the size of the aperture of entrance and there were a few loose pieces of the external table of the skull at its edges, and a fissure ran from this aperture towards the roof of the right orbit. The aperture of entrance just admitted the little finger and was very cleanly cut. The edges were slightly irregular, but no fragmentation of the internal table could be discovered. The dura mater at both of the openings showed a deficiency about the size of the apertures in the nose and a definite bruised track in the brain matter between the two openings could be easily made out. The brain pulsated around both apertures. The bone between the openings was normal. There was slight bleeding from a meningeal vessel at the exit aperture which was easily stopped by ligature, but there was no great blood extravasation. The loose fragments of bone were removed and the edges in the apertures in the bone smoothed off with gouge forceps. The whole wound area was then cleaned with carbolic lotion, the apertures in the scalp were excised and sewn up, the large flap was replaced and sutured in position and cyanide dressing was applied. The progress of the patient was uneventful. He gradually became more conscious and complained of headache for the first few days following the operation. The temperature did not rise above 100°. When the wounds were dressed on the 18th they were found to have healed, and on the 28th he was quite well. The brain could be felt pulsating over the apertures both of entrance and exit, especially over the latter. On Jan. 13th, 1900, the patient was transferred as a prisoner to Cape Town. On the evening of the day of the operation, owing to a very heavy downpour of rain, the patient's tent was rapidly flooded, and without waiting for assistance he waded ankle-deep in water with his coat over his head to drier ground. This patient is one of seven patients with penetrating gunshot wounds of the skull who have been successfully operated upon at Orange river.

CASE 2.—A Free State Boer, named P. Nel, aged 39 years, was wounded in the battle at Belmont in the lower third of the right thigh. He was admitted into the Cape Field Hospital two days later—i.e., on Nov. 25th—having a fracture of the femur. The bullet, a Lee-Metford, entered about three inches above the external condyle and was felt close under the skin over the external tuberosity of the tibia. It was cut down upon by Surgeon-Major Cox, of the Cape Volunteer Medical Staff, and removed. Both wounds healed readily under antiseptic dressings, but great difficulty was experienced in getting the two fragments of the femur into good apposition, so much so that on Dec. 8th operative measures were suggested by Mr. Makins as the only means of obtaining a good result. At this date both wounds had practically healed and an oblique fracture, as shown in the diagram, was felt. There was shortening of the limb to about three inches, but the knee-joint appeared to be normal. The lower end of the upper fragment projected markedly

close under the skin on the outer side of the knee. The patient was a strong, healthy man with no signs of organic disease. It was consequently decided to expose the seat of the fractures and screw the fragments together with Lane's screws, which Mr. Makins kindly supplied. On the 8th chloroform was administered by Dr. Pershouse (civil surgeon) and an incision from four to five inches long was made parallel to, and in front of, the biceps tendon.



A marks the wound of entrance and B the wound of exit.

The lower end of the upper fragment was thus exposed, projecting through the vastus externus muscle, while a large strip of this muscle intervened between the fragments of bone. This intervening strip of muscle was divided and after removal of a small piece of the upper fragment of the femur the fractured ends were brought into good apposition. The bone was then drilled and two screws were inserted which held the fragments well together. Owing to the removal of a longitudinal piece of the upper fragment the lower screw could not closely approximate the two fragments. There was no comminution of bone at the seat of fracture and very little fissuring at the ends of the fragments. Care was taken not to unnecessarily strip off the periosteum from the bone. Deep sutures were then inserted and the edges of the wound were approximated. A gauze drain was inserted at the lower end of the wound and cyanide dressing and a Lister long outside splint was applied. Mr. Makins and also Dr. Crispin, civil surgeon, kindly assisted me at this operation. The progress of the patient was satisfactory. The wound was dressed on the day following the operation and the gauze drain was removed. The patient's temperature on this day was 99° F. and on the 12th it was 100°. There was no pain. On the 14th the wound was dressed and was found to have practically healed by first intention, but over the situation of the aperture of entrance of the bullet there was a fluctuating swelling which was opened and an ounce of broken-down clot was evacuated. On the 18th the temperature was 101°. The wound was syringed out, the discharge being purulent. The condition of the knee-joint was normal and there was only very slight pain. A bracketed long outside splint was applied. The wound was now dressed every day. The cavity gradually contracted. The fracture was examined on Jan. 13th, when it was fixed in plaster-of-Paris, and was found to be firmly united and in good position with practically no shortening of the limb.

CASE 3.—A young man named Du Toit, aged 19 years, a Free State Boer, was shot in the back at Graspan battle and lay on the field for 12 hours before he was removed. He was then taken to Modder river and on the next day he was taken to Orange river. Before admission he suffered from severe hæmoptysis with cough and pain in the chest. When first seen at Orange river on Dec. 3rd the patient was found to be suffering from a gunshot wound of the left side of the chest with lodgment of the bullet. The aperture of entrance was situated an inch to the left of the second lumbar spinous process and an inch below the top of the last rib on the left side. The track appeared to pass in an upward direction. There was dulness over the left chest to the level of the second rib, with loss of breath sounds and vocal fremitus over the area, pointing to a condition of hæmothorax. The heart apex could not easily be made out, but appeared to be displaced inwards, and pulsation could be easily felt in the fourth right interspace close to the sternum. The pulse was 110 and the temperature was 102° F. There was no fracture of the ribs, the right side of the chest was normal, and there was no hæmaturia. There was slight cough with blood-stained expectoration and some dyspnœa. The patient was a thin, anæmic, large-boned youth. The entrance wound rapidly healed under a collodion scab, but the cough and dyspnœa, together with an almost uniform temperature of 102° in the evenings, combined with the physical signs in the chest, made us decide to empty and drain the left pleura. Consequently, on the 13th chloroform was administered by Dr. Pershouse and two inches of the eighth rib on the left side in the posterior axillary line were resected and the pleural cavity was opened, when five pints of dark-red, grumous, inoffensive fluid with a few clots were evacuated. The lung was found to be considerably collapsed and a track appeared to pass between the two lobes towards the spinal column, and on the insertion of a probe it seemed likely that the bullet was firmly fixed near this situation. Nothing further was done beyond a drainage-tube being inserted and cyanide dressings applied. On the following day the patient was much relieved by the operation and the heart was then easily felt beating in the fourth right interspace near the sternum. The temperature was 101° F. On the 16th the wound was dressed and the drainage-tube was removed. Considerable discharge was found upon the dressings, which were, however, quite sweet. The temperature was 101·4° F. On the 20th the temperature had declined to 99·8° F. and the wound was rapidly healing. The lung was expanding; there was some slight dulness over the left base. The patient was much improved. On the 31st the wound was practically healed. Breath sounds could be heard to the base of the left chest. There was no dulness. The temperature still rose to about 101·2° every evening. The patient's chest had been x-rayed, but the position of the bullet could not be localised. This examination was kindly performed for us by members of the New South Wales Medical Corps of which Colonel Williams was in command. On Jan. 4th the patient developed some impaired resonance with tubular breathing on the right ride of the chest just below the angle of the scapula. This, however, rapidly cleared up and on the 13th the patient was quickly convalescing, but the heart still remained displaced to the right side.

CASE 4.—A Boer named Fouri, aged 41 years, was shot in the right knee at the battle of Belmont. The bullet entered by a very small opening at the lower and inner part of the popliteal space and gained an exit through the centre of the patella, causing a transverse fracture of the bone, and emerged by an irregular wound considerably larger than the wound of entrance. The patella was not comminuted and there was about two fingers' breadth interval between the fragments. The joint was considerably swollen. After a few days' rest upon a MacIntyre's splint this swelling diminished, the fragments of the patella were almost approximated, and the wounds healed. Consequently the knee was immobilised in plaster of Paris with strapping applied to keep the fragments of the patella together. This splint was kept on until Jan. 10th, when upon removal of the splint the fracture was well united. The joint being normal the patient was allowed to walk about.

CASE 5.—A Free State Boer named Fouchee, aged 34 years, was shot at Modder river on Nov. 28th, the bullet entering the inner side of the left knee on a level with the upper border of the patella and gaining exit close to the inner side of the patella, which latter it slightly splintered at its edge. When first seen at Orange river on Dec. 3rd the wound in front of the patella was septic and there were some swelling and distension of the joint. The temperature was 101·8° F. This condition of the joint did not improve under rest and antiseptic treatment of the wound; therefore on the 7th the joint, which was then considerably distended and painful, was opened by an incision on the inner side of the patella and about four ounces of turbid serous fluid were let out. The joint was then washed out with a carbolic lotion (1 in 10) and the incision sewn up. The limb was placed on a MacIntyre's splint and dressings were applied. The condition of the joint gradually improved and the wounds healed, so that on the 27th a plaster-of-Paris splint was applied. This was removed on Jan. 13th, when the joint was found to be quite normal in character with no pain and very little

swelling. The patient was then transferred as a prisoner to Cape Town.

CASE 6.—A Scandinavian Boer named Van Ekem was shot in the abdomen on Dec. 11th at Magersfontein. He lay on the field for 12 hours and the wound was then dressed with first field-dressing. He was then removed to Modder river where he remained until the 14th, when he was taken to Orange river. Before arrival at the latter place he was continually sick and had great pain in the abdomen which was considerably swollen. The bowels acted soon after the receipt of the wound, but there was no passage of blood either by the bowel, by the bladder, or by the stomach. On admission to the hospital the patient was found to be a thin, anæmic man with an anxious expression. He lay with his knees drawn up. There was considerable distension, especially in the epigastric region, and tenderness, especially in the right loin. The wound of entrance of the bullet was very small and was situated in the left loin four inches from the fourth lumbar spinous process and one inch below the tip of the last rib. The wound of exit was somewhat larger than that of entrance and was situated over the edge of the costal margin on the right side of the abdomen in about the mid-axillary line—i.e., about the level of the cartilage of the tenth rib. No fracture of rib was felt. The chest was quite healthy. In the right loin there was dulness to percussion which extended in front to the right semilunar line; this dulness did not appear to shift with the movements of the patient. The pulse was 100 and the temperature was 100·8° F. Liver dulness was present, but the chest was normal to examination It was decided to watch the patient and administer a dose of magnesium sulphate. This produced a complete evacuation of the bowels, and the patient considerably improved, the distension becoming less and the sickness stopping; but the temperature still remained at about 100° F. in the evenings. The dulness on the right flank also remained, but diminished somewhat in extent till about the last week in December, when a definite, tender, and painful swelling was detected close to the costal margin, opposite and deep to the wound of exit of the bullet. Consequently on the 31st chloroform was administered and an incision was made parallel to the costal margin and close to the wound of exit which, as well as the wound of entrance, had by this time quite healed under a collodion scab. On deepening the incision the attachment of the tenth rib to its costal cartilage was exposed and a fracture of this rib was found at half an inch from its cartilage end. The fractured ends of the rib were resected and the intercostal muscles and the attachment of the diaphragm to this rib were cut through. On doing this about four ounces of thick inoffensive pus were evacuated from a cavity whose floor was apparently formed by the surface of the liver. The cavity was circumscribed and as far as could be made out without danger of opening the general peritoneal cavity it did not pass in a downward or inward direction. A drainage-tube was therefore inserted and antiseptic dressings were applied. This operation completely relieved the pain and the wound was washed out and dressed daily. One week after the operation the patient began to have severe pain in the right iliac fossa and rigidity and impaired resonance in the same locality, and his temperature, which had become normal after the operation, again reached 100° F. in the evenings. On Jan. 9th, therefore, fearing that pus was tracking behind the peritoneum into the iliac fossa, an incision was made under chloroform just internal to the anterior superior iliac spine and deepened to the peritoneum, which latter was raised from the iliac fossa towards the pelvic brim. No pus was detected. A drainage-tube was inserted and the wound sewn up and dressed separately from the incision made at the first operation. The patient was relieved of his pain by this operation and he no longer suffered from the severe pain running down the right thigh which he did before the operation. The drainage-tube was left in for two days and was then removed and the wound was carefully dressed, and when dressed again on the 14th it was healing without reaction. The drainage-tube in the wound made at the first operation was now shortened as the discharge from this wound had considerably diminished. The rest of the abdomen was normal in character and the bowels were acting regularly. The patient was well on the way to convalescence when I gave up charge of his case on the 14th. This case is an example of several similar cases of penetrating gunshot wounds of the abdomen in which the perforation of the bowel, if present, is situated in the large intestine and thus probably extra-peritoneal, and where the results produced by the perforation become localised. These cases give extremely good results under expectant treatment.

Other cases of penetrating gunshot wounds of the abdomen occurred in which the perforation if present was situated in the small intestine and in which the result produced was a rapidly progressing general peritonitis from extravasation of the intestinal contents over the general peritoneal cavity. Patients in these cases must, of course, to ensure success be treated as early as possible after the receipt of the injury, otherwise no satisfactory results can be expected.

Orange River, Jan. 15th.

(FROM OUR SPECIAL CORRESPONDENT AT THE BASE.)

Part of a sanitarium situated at Claremont has been taken over for the treatment of convalescent officers discharged from the various base hospitals. Claremont is a suburb of Cape Town. The sanitarium is complete in all particulars, including an admirable system of electric and other baths, trained masseurs, and a gymnasium. Each officer has a well-appointed bedroom furnished with electric light, and there are large verandahs and extensive grounds—everything, in fact, that can tend to hasten the recovery of a patient suffering from wounds or disease. Up to the present some 60 or 70 officers have been sent there, and I need hardly say that it is a great boon to them and a convenience to the staff of our general hospitals, which can thus keep their wards ready for the more serious cases that will be coming down from the front. The letter to the *Times* complaining of the want of attendance, short rations, and maladministration said to exist at the officers' hospital at Wynberg has caused the greatest indignation amongst the officers who have been treated there, and many letters have been received from patients who have recovered and gone to the front denying *in toto* that there was a word of truth in the allegations. Had the authorities of the *Times* taken the trouble to inquire for themselves from any of the officers (of whom there are plenty at home at present) instead of publishing vague insinuations which could only emanate from outsiders suffering from pique at not being allowed to interfere in matters that did not come within their province they would have had ample evidence to convince them that these alleged defects were grossly exaggerated and had no foundation in fact. But I say no more, for, thank goodness, in this campaign the medical authorities can afford to be generous and to ignore "pin pricks."

Several trains bearing patients have lately come down, but the cases have been principally medical ones, as the field and stationary hospitals have been quite able to cope with the results of the scattered skirmishes that have taken place lately. I hear that enteric fever is beginning to become troublesome at the Modder, and we know that it is bad at Ladysmith, but before you get this letter I hope the latter will have been relieved, and the necessary comforts and nursing facilities which will follow in the footsteps of our relieving force will soon alter the state of affairs. I told you last week that the *Majestic* was on the point of leaving with wounded officers and men, and I took the opportunity of going on board on the day of sailing to see for myself the accommodation for the wounded, and from what I saw I hope that if bad luck causes me to be sent home invalided I may be given a passage in a White Star liner. Luxury was not the word for it, and the only grumbler I met with was an officer who had lost his arm and who complained with a twinkle in his eye that he had only been given a £100 state-room instead of one quoted for the Atlantic passage at £160. The quarters and accommodation for the men were equally good; and I fancy that there will be no complaints regarding overcrowding as she took home only 13 officers and about 120 men, her usual complement being 250 saloon passengers and from 600 to 1600 third-class passengers. The transports *Orient*, *Kildonan Castle*, *Cymric*, and *Nomadic* have come in during the last 48 hours, and have disembarked almost as many sick as we have sent home. Pneumonia seems to be the prevalent disease on board.

Claremont, Jan. 24th.

LITERARY INTELLIGENCE.—Messrs. Churchill are bringing out a new edition of "The Mental Affections of Children," by Dr. W. W. Ireland, published in the summer of 1898.

SICK AND WOUNDED OFFICERS' SURGICAL AND MEDICAL AID FUND.

THE following subscriptions in addition to those already announced have been received:—

	£	s.	d.
Miss A. G. Nobes	5	5	0
Sir W. Thornley Stoker	5	5	0
"A"	5	0	0
"A Lady," per the Rev. H. G. H.	5	0	0
Mrs. Percival Frost ...	5	0	0
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Mrs. G. Leith...	3	0	0
Mrs. G. R. Elwes	3	0	0
Richmond-on-Thames..	2	13	0
The Misses M. and E. Meredith	2	10	0
Major W. J. Langford..	2	2	0
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The Lady Emily E. Turnour	2	0	0
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Surgeon-General and Mrs. Hamilton	1	1	0
Mr. H. E. Plank	1	1	0
Mr. W. J. Boswell-Stone	1	1	0
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Anonymous	1	0	0
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"Commander, R.N." ...	1	0	0
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Captain D. Wimberley, I.M.S.	1	0	0
Mrs. C. Burke	0	10	0
Mr. W. K. Davies... ...	0	10	6
Mrs. J. Hart-Dyke ...	0	10	0
Miss A. L. Foulkes ...	0	6	0
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Dr. W. D. Lush	5	5	0
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Mrs. J. Stein	5	0	0
Miss E. M. A. Wardle...	5	0	0
Mr. John Holden... ...	3	3	0
Miss Marten	3	3	0
Mr. John D. Paul... ...	3	3	0
Hon. Mrs. Wilson Fox	3	0	0
The Misses Loveday ...	3	0	0
Miss E. McClintock ...	3	0	0
Miss E. E. Nunn	3	0	0
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Miss Lord	1	1	0
"N."	1	1	0
Mr. W. Baptiste Scoones	1	1	0
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Messrs. Lewis	1	0	0
J. E. P.	1	0	0
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Hon. Mrs. Walter Portman	1	0	0
Mr. G. W. Rawdon ...	1	0	0
Miss Shute	1	0	0
Dr. J. Sykes	1	0	0
"Waxwing"	1	0	0
Mrs. E. Roberts	0	10	6
Miss Drury	0	10	0
Miss E. Temple	0	10	0
L.M. & M.B.	0	10	0
Miss Cooke	0	5	0

Subscriptions should be sent to Messrs. Coutts and Co., Strand, or to the honorary secretary and treasurer, Mr. Arthur Brodrick, at Hampden House, 61, Green-street, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 8th, the senior vice-president, Mr. H. G. HOWSE, being in the chair.

Mr. W. H. A. Jacobson of Guy's Hospital was elected a member of the Court of Examiners, and Mr. H. W. Page was elected a member of the Board of Examiners in Dental Surgery.

The Vice-Presidents reported that in pursuance of the resolution of the Council of Jan. 11th they had nominated Dr. W. D. Halliburton, F.R.S., and Dr. E. H. Starling, F.R.S., to give evidence before the committee appointed by the Local Government Board to inquire into the use and effects of food preservatives and colouring matters.

The Vice-Presidents reported that Mr. S. Hamilton Cartwright had ascertained that the Charity Commissioners were prepared to consent to the alteration of the Cartwright Trust for the purpose of giving effect to the scheme proposed by the Council, provided that the funds were invested in the name of the official trustee by whom the dividends would be paid to the trustees, who, they suggested, should be the President and Vice-Presidents of the College *ex officio*. The Vice-Presidents stated that they had agreed to this proposal.

A letter was read from Mr. F. Newland-Pedley, F.R.C.S. Eng., stating that he is going to South Africa as a dental surgeon and will greatly need the help of several dental students to make splints and to act as assistants, and asking that the service of such students in the Imperial Yeomanry Hospital may count as part of their hospital curriculum. It was resolved that Mr. Newland-Pedley should be informed that on the production of satisfactory evidence the service rendered by dental students in the Imperial Yeomanry Hospital shall be reckoned as part of the hospital curriculum for a period not exceeding six months in such manner as the Board of Examiners in Dental Surgery may recommend.

It was referred to the Committee of Management to consider and to report to the two Colleges on the recognition of the services rendered by medical students at the seat of war as a part of the hospital curriculum.

A letter was received from Mr. F. Rowland Humphreys, honorary secretary of the Midwives Bill Committee, forwarding a copy of the Midwives Bill, 1900. A small committee was appointed to consider the subject and to report to the Council.

A letter was read from the President and General Secretary of the Thirteenth International Medical Congress to be held in Paris, inviting the College to send a representative to the Congress. It was resolved that Sir William Mac Cormac should be asked to act as the representative of the College.

A letter was read from Sir John R. Paget, Bart., thanking the Council for their resolution of condolence on the death of his father.

THE ANNUAL REPORT (1898) OF THE MEDICAL OFFICER OF HEALTH OF LONDON.

II.

ON a recent occasion[1] we drew attention to certain sections of Part III. of Mr. Shirley Murphy's report, which treats of the administrative action of the London County Council for the protection of the public health. In the present article we shall briefly discuss Part I. of that report, which deals with the vital statistics of the Administrative County of London for the year 1898.

The statistical information which ever since his appointment some 10 years ago Mr. Shirley Murphy has furnished in his successive annual reports differs considerably from that which emanates from Somerset House. For whilst the General Register Office deals of necessity with the question of mortality alone, the county medical officer of health considers in addition the behaviour of the sickness which leads to that mortality—as far, at least, as he possesses the means of so doing. It is evident, therefore, that in regard to those diseases which are most obviously amenable to control by sanitary measures Mr. Shirley Murphy's statistics must be regarded as possessing a value which is unique; and we do not hesitate to repeat the opinion which we expressed concerning some of the earlier numbers of the series, that these reports will in the near future come to be acknowledged as the type of what such documents ought to be, and that, in respect of form and arrangement at any rate, they will furnish models for adoption by medical officers of health throughout the kingdom.

Passing over the ordinary statistics of births, deaths, and marriages in 1898, which we have already noticed in connexion with the Registrar-General's annual summary, we come to an ingenious method which Mr. Shirley Murphy has adopted for the purpose of demonstrating the effect on the community of fluctuations in mortality. With the help of a life-table published in his report for 1893, and referring to the decade 1881-90, Mr. Shirley Murphy contrasts the London mortality in 1891-98 with that of the previous 10 years. By comparing the mean annual number of deaths occurring

[1] THE LANCET, Jan. 27th, p. 256.

since the year of the last census with the annual number that would have occurred according to the rates obtaining between 1881 and 1890, he obtains the number of lives gained or lost in each year, and by the help of certain columns of the life-table he expresses this gain or loss in terms of "life capital," the years of life being obtained by applying the mean future life-time of the life-table to the number of lives gained or lost at each group of ages. In the county of London there was a mean annual saving of 4161 lives during the period 1891-98, as compared with the decennium 1881-90, and this represents a mean annual salvage of 161,321 years of "life capital." Mr. Shirley Murphy gives a table which shows that, as compared with 1881-90, the mean annual number of lives saved has been steadily increasing since 1891, while the amount of "life capital" in proportion to the number of lives saved has decreased, this decrease being particularly marked in the periods ending with 1896, 1897, and 1898 respectively. This apparent anomaly is explained by the fact that the amount of "life capital" gained is not directly proportional to the number of lives saved, but is dependent also upon the ages at which the life-saving is effected.

In discussing the behaviour of small-pox in London Mr. Shirley Murphy naturally devotes considerable space to a criticism of the new Vaccination Act. After passing in review the alterations effected by the Act of 1898 in the law with respect to vaccination, he expresses the opinion that at the present time it is too early to form a judgment concerning the merits of the Act or to dogmatise as to whether it will or will not eventually secure the better vaccination of the community. The appointment of a Royal Commission in 1889 led, as might have been expected, to greater laxity in relation to vaccination, and, equally of course, a decision of Parliament in favour of vaccination might have been expected to lead to increase of vaccination subsequent to the presentation of the report of the Royal Commission. The question, however, which needs to be determined and which can only be determined by the experience of subsequent years, is whether the amount of vaccination default will be found in the future to be greater or less than it had been before the appointment of the Royal Commission of 1889. Not till then will it be possible to determine whether the new law with its provisions for domiciliary visitation and for the supply of glycerinated lymph as well as its clauses exempting from compulsion the so-called "conscientious objector" will attain the object in view. In any case, as Mr. Shirley Murphy very properly insists, "the present position of the vaccination law gives opportunity for further legislation such as shall provide an effective system of revaccination of the community. That such a system is necessary for the protection of the people against small-pox is shown conclusively by the experience, not of England only, but that of other European countries also." In connexion with this subject Mr. Shirley Murphy gives a table showing the proportion of children who appear in the London vaccination returns as "not finally accounted for," that is, as presumably unvaccinated. This table reveals the startling fact that in 1896, the most recent year for which returns are as yet available, the proportion of children born in London who at the end of the year had not been finally accounted for was equal to more than 26 per cent. The position of London may be imagined in the event of a serious invasion of small-pox when we remember that fully one quarter of the infantile population are, or were quite recently, wholly unprotected by vaccination.

The prevalence of measles is again referred to at some length in the present report, especially in connexion with the question of school attendance. Particulars are given as to the closure of schools in consequence of the prevalence of measles among the scholars in various parts of London, and the opinions of the local medical officers of health are quoted concerning the precautions which should be taken against the spread of this disease in schools. Thus the medical officer of health of Stoke Newington expresses his "regret that the regulation of the London School Board requiring that the health officer of the district shall be informed of a child's exclusion from school on account of symptoms of infectious disease is not given effect to as a routine practice, for it would often materially assist the medical officer of health in taking measures to remove further risks of school infection." The medical officer of health of Lambeth, also, who reports that on one occasion during the year as many as one-fourth of the scholars at an infant school were absent on account of measles, is of the same opinion with reference to the School Board regulation above referred to. The question of including measles among the "dangerous infectious diseases" to be notified under the London Public Health Act is now under the consideration of the London County Council, who have invited the opinion of the local sanitary authorities as to the desirability of extending the provisions of that Act to the disease in question. There can be no question as to the advisability on medical grounds of providing against the spread of measles amongst the children in our elementary schools, for the disease is not only exceedingly fatal under conditions sometimes obtaining but it frequently leaves behind it mischievous sequelæ which are well known to the profession. Whether, however, the London County Council are prepared to face the very considerable outlay which the notification of measles would involve is another and not unimportant question, and their decision will, we are convinced, be awaited with much interest by the authorities of other large centres of population throughout the country.

SPECIAL FESTIVAL DINNER AT KING'S COLLEGE:

MR. BALFOUR ON SCIENTIFIC TRAINING.

MR. BALFOUR presided on Feb. 14th over a special festival dinner given by the Council of King's College at Lincoln's Inn Hall in aid of the new scientific laboratories of the College. Lord GLENESK, in speaking to the toast of the "Naval and Military Forces of the Empire," elicited loud applause when eulogising the services of the medical officers at the seat of war. Lieutenant-General KENT and Sir JOHN COCKBURN acknowledged the toast.

Mr. BALFOUR in proposing the toast of "King's College" said: The toast, reduced to its narrowest limits, which I have to propose to you is the advancement of scientific research in this great metropolis of ours, in the University which we have recently remodelled, and more especially in that College where I hope and trust your liberality will enable the interests of science to be pursued in the future with an even greater success than they have been pursued in the past. Now, ladies and gentlemen, we have all probably been concerned either in making speeches or in listening to speeches in recent years on the subject of technical education—a very loose phrase, sometimes used or misused to mean education in manipulation or dexterity of hand treatment; sometimes, and I think more properly, used to mean that application of the principles of science to industrial life which we are more and more beginning to recognise as an increasing need of the age in which we live. Now it has been found easy, and I hope it always will be easy, to enlist popular sympathy in anything so obviously useful as the application of scientific method to industrial pursuits. And it will be all the more easy from the fact that we have before us in certain foreign countries striking and admirable instances of the method and of the success which attends or may attend such application of scientific method to industrial pursuits. That everybody can understand. An appeal for that purpose is an appeal which touches the heart of everybody, nearly or remotely connected with the industries on which this nation as a whole lives and on which it must continue to live if it is to live at all. I appeal for something not less necessary, but something perhaps more remote from the ordinary every-day popular educational interest, for I appeal on the present occasion not so much for anything in the nature of technical instruction or applied science as for aid to carry out that instruction in science itself, and those researches in pure science which lie at the base of that instruction, which, from the very nature of the case, can only appeal indirectly and remotely to the great mass of mankind. And yet, after all, science is the essential matter that we have got to consider. Its applications will come and must come—will come almost of themselves, must come in the course of time; but you cannot have applied science without having science in the first instance, and if you do not cultivate scientific research and scientific education it will be in vain that you multiply your technical

schools and it will be in vain that you labour to erect a great superstructure where your foundations have been so inadequately laid.

I feel it the more incumbent upon me to urge upon you the claims and the glories of science pursued for itself from the very fact that such science cannot directly appeal to general interest. Among the great number of persons deeply interested in and astonished at, for example, so interesting and sensational a discovery as wireless telegraphy, the majority could neither know of nor take an interest in the speculations of Maxwell or the experiments of Hertz, without which no such discovery as wireless telegraphy would have been possible. These discoverers had indeed fame and reputation among scientific men, but have not even now that world-wide reputation, that currency in the mouths of men, which fall to lesser inventors who have built their work—and rightly and properly built their work—upon the foundations laid by others. Now, according to my view, it is the bounden duty of every great place of university education not merely to keep before it the immediately practical needs of technical or other education, but also not to permit the ideal of scientific investigation to be for one moment clouded. That great object must require, and must increasingly in my judgment require, the generous and liberal coöperation of all classes in the community, whether they be immediately interested in science, intimately acquainted with scientific details, or whether they be merely part of the general public. Men of science themselves are not always in a position to give that pecuniary aid necessary to build the modern laboratory and to equip it with modern appliances, and they are right to call upon all those who take any interest in their subjects to aid them with that pecuniary assistance which in many other counties is extended to them by the Government, but which in this country, rightly or wrongly, by an almost immemorial tradition it has been left chiefly to the energy of private enterprise to provide.

King's College will without question be one of the great teaching centres of the new London University. It requires at this moment, to enable it to carry out that great function, the assistance of the public to supply it with adequate scientific accommodation, especially, I am informed, in the matter of bacteriological and physiological laboratories and lecture-rooms. And it may be some consolation to those who take little interest in scientific investigation unless they can immediately perceive its practical application, to reflect that both bacteriology and physiology have a most immediate and direct bearing upon the health and the happiness of mankind. In both branches of study King's College has proved itself rich in teachers of eminence. I am not going to discuss—it would be almost impertinent for me to even touch upon—the stupendous interests which are bound up in the successful prosecution of those two branches of scientific research, but I may, perhaps, remind you of the enormous practical importance to us, of all people in the world, of some of these more recent researches in bacteriology. Bacteria are a very humble class of organisms, very unjustly abused, as far as I can discover, by ordinary public opinion—they suffer, as other classes have suffered, by having among them a certain number of black sheep; but for the most part they are not only innocent but most useful allies—most useful allies of industry and almost necessary coöperators in some of those functions which have to be discharged if the health of great cities is to be maintained. Our chief interest in them lies with the pathogenic members of the group and we, of all people in the world, are especially interested in dealing with those forms of tropical disease which they produce, for we, of all people in the world, are most interested in maintaining a large number of our population in countries where those diseases born of bacteria are the greatest of scourges. And it is, I believe, to a distinguished professor in King's College, more perhaps than to any other man in this country, that some of the most useful researches in this department are due. I do not know that it is necessary for me at greater length to impress upon you the theme which has been committed to my charge, but I confess that I cannot conclude without admitting that I think this great city has been somewhat remiss in the support which it has hitherto given to scientific investigations in the commercial metropolis of the world. Technical education, if I may revert to that subject for an instant, has in it almost necessarily some element of competition. You hear it said: Germany is doing this, France is doing that, some other country is doing the other; unless you keep abreast of them in your methods of education you will fall behind them in your industrial enterprise. That is a very proper argument, it is a very patriotic argument, it is an argument which I myself have used before, and it is an argument which I shall think myself justified in using again. But I am appealing to you on behalf of the cause which has in it none of this element, this inferior and lower element of competition, whatsoever. Every scientific discovery wheresoever made, be it in Berlin, Paris, London, New York, Vienna, wherever it be made, as soon as it is made it is the common property of every man of science. Nations may erect against each other some barrier of tariff, they may engage in some absurd rivalry animated by I know not what spirit of suicidal jealousy, but men of science wherever they live, to whatever nation they belong, have a cause which is common to humanity at large, which knows no provincial boundaries and which is not interfered with by any sectional rivalry. To that great common fund of knowledge, the basis, after all, of your civilisation as it is—the basis, after all, of the industrial progress you hope to make—I think London should contribute its full share. London takes the tribute, a well-earned tribute, from every discovery made throughout the world, from every advance of civilisation, from every encroachment of civilisation upon barbarism, and from all these London, or some section of it, gets the benefit. Let us, then, who are dwellers in London, feel that we have some obligation to the world at large corresponding to the great position, the international position, which we occupy. Let us do what we can as a community to further that investigation into the secrets of nature, that storming of the citadels of natural knowledge in which all civilised men are, and ought to be, coöperators. Let it not be said that while there are great centres of scientific teaching in every other great metropolis, we have allowed ourselves for one moment to fall behind in the race in which we, of all people, ought to be leading. It is as contributors to that great end that I ask you for assistance to-night. It is because we know that in King's College we have an organisation ready made to our hand, which has shown us what it can do in the way of scientific investigation and has given us, therefore, an earnest of what it can do in the future in the same great cause; but if it is to do all that it is capable of it demands your assistance, and the assistance of others like-minded to you. It is only by that help, liberally offered, that this great metropolis can fulfil the duty it owes to the scientific bodies in its midst. I ask you now to drink with me the toast of the evening, "Prosperity and success to the future scientific investigations of King's College."

The toast was responded to by the Hon. W. F. D. SMITH (treasurer of King's College) and the Rev. Dr. ROBERTSON.

"Science" was proposed by Mr. Justice BYRNE. This was replied to by Sir MICHAEL FOSTER, M.P., who said that with regard to the toast itself, he did not know whether it was gracious or ungracious to say it, but it seemed to him wholly unnecessary, for science had been toasted the whole of that evening. The speech of Mr. Balfour was one continual toast of science, which he ventured to say would carry gladness into the heart of every man of science in this country. Some of his scientific friends abroad had said to him that science did not hold the position in this country that it did in theirs, but from that evening he could appeal to the speech of their chairman. Science had several aspects: there was the science militant, which tilted against every opinion and tradition, and there was the extreme wing of this science militant, which might be called the science blatant. Science blatant was always making pretensions for science to which science itself made no claim. The science blatant was preached by men who had never taken part in the fight or in the work but had stolen the trumpet from someone and simply blown it. Then there was the science vigilant, and vigilant was, he considered, the real adjective for the science which was always wide awake, which was always looking out for occasions for advance, and which was always looking carefully on its own defects and striving to profit by them. Lastly, there was the science mendicant. "Leech" was in old time the term for a man of learning, and it held good still, for scientific men were always crying "Give, give." And why was that? Because they were never content with what they had, because everything they had was always depreciating in value and use. It was because old appliances had to be

thrown away and new apparatus procured that they were continually demanding help.

The Bishop of LONDON proposed the health of the Chairman, who briefly replied.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of "Fever" in the Village of South Witham,[1] by Dr. R. BRUCE LOW.—South Witham is a small village in South Lincolnshire in which the prevalence of an anomalous "fever" was brought to notice in a somewhat unusual way. In the course of the four weeks ending on Dec. 6th, 1898, four deaths occurred in a farmer's family in the village under circumstances which led first to local suspicions of criminal poisoning and later to representations to the Home Secretary with a view to the exhumation of the bodies. Meanwhile, however, the occurrence of subsequent cases of "fever" in the village became known and the matter was referred to the Local Government Board by the Home Office for the determination of the nature of the prevalent malady. Dr. Steil, who had attended the cases of illness in the farmer's family, had formed the opinion that all the cases were in fact enteric fever of unusual type. This conclusion Dr. Bruce Low, after careful inquiry into all the circumstances, considers as the most probable solution. If the farmer's family alone had been in question it would have been impossible, from the clinical history available, to accept or to reject a diagnosis of enteric fever. The symptoms had been those of an acute and rapidly-fatal enteritis, complicated by meningeal symptoms. The latter had, indeed, been so marked as to suggest that the patients had suffered from cerebro-spinal meningitis and not from enteric fever at all. But a series of cases followed in the village, the majority of which were evidently quite typical enteric fever. Between the date of attack of these typical cases and the original illness in the farmer's family intermediate cases occurred which, though presenting the usual symptoms of enteric fever were also attended by unusual meningeal symptoms such as had been manifest in the farmer's family. Dr. Bruce Low also ascertained that every household invaded by the illness had come into some relation with the farmer's household of a kind which would permit explanation of enteric fever having been introduced from that source. The value of Dr. Bruce Low's observations would have been enhanced if it had been possible to obtain post-mortem examinations, or if the serum test had been employed. But the numerous clinical data which he gives are well worth noting for comparison with those in other cases where similar doubt and difficulty arise.

We have recently received four other reports of inspectors of the Medical Department of the Local Government Board to which, as their interest is in the main local and administrative, we can only make brief reference. In *Reports as regards the Eton Rural District* Dr. Ralph W. Johnstone deals with a number of local insanitary circumstances, particularly in relation to recent diphtheria prevalence. The obstacles to sanitary progress in this and in similar low-lying districts bordering the Thames are considerable, but evidently many of them could be overcome if the place had a local authority of greater vigour and determination than the Eton Rural District Council. Dwellings in most of the villages have their own leaky cesspools in proximity to and polluting the water of their shallow wells. This is unsatisfactory enough, but in the growing parts of the district, for instance on the borders of Slough and Eton, the condition of new dwellings is in some ways worse. They obtain water from the public water service but they have no sewers, and instead have more or less water-tight cesspools of comparatively small capacity built in accordance with local by-laws. Such cesspools obviously require frequent and systematic attention to prevent overflowing. But in this district the whole onus of cleansing cesspools is placed upon the occupier instead of being effected, as it should be, by the local authority. As a result, in the semi-urban localities in question, overflowing of cesspools and "backing up" of house-drains is extremely common and gives rise to most unwholesome pollution of the soil about and beneath the dwellings. In this district the undesirable custom of allowing houses to be built below the natural ground level on sites which have been excavated for brick earth appears to be common. In a second report Dr. Johnstone deals with complaints from persons in the district living near the Grand Junction Canal of the nuisance arising from the use of the land bordering that canal for the deposit of London house refuse which is transported thither by the contractor to the Kensington Vestry. From the viewpoint of sentiment, in any case, these complaints have a substantial basis, though Dr. Johnstone is unable to substantiate a further allegation that these nuisances have been responsible for recent diphtheria prevalence in their neighbourhood.

Reports such as that by Dr. G. S. Buchanan and Mr. R. H. Bicknell—*Upon Inspection of the Gathering Grounds and Waterworks of the Bolton Corporation*—might be multiplied with advantage to the progress of public health measures in the country. The inspectors report a large number of potentially dangerous conditions affecting the gathering grounds and the reservoirs of the Bolton supply, and they are unable to regard the filtration practised as sufficient uniformly to remove the risks to which these conditions give rise. When it is remembered that Bolton supplies not only its own borough, but seven other urban districts and some rural areas—in all over a quarter of a million of population—the importance of placing the supply above suspicion is obvious. In view of the large powers which it has obtained from Parliament, and of the profit (about £14,000 yearly) which it derives from the water undertaking, the Bolton Corporation should find no difficulty in at once doing away with the sources of pollution described in this report. It is surprising to read that in matters so closely affecting public health as the water-supply this corporation appear to have hitherto excluded their own medical officer of health from their councils. In this and other ways they seem to have failed to give the water consumers many of the advantages which municipal control of a water service is intended to confer, and instead to have regarded their water business too much from the view-point of a third-rate water company.

Dr. F. St. George Mivart has recently contributed two reports upon local inspection of rural areas—*Upon the General Sanitary Circumstances and Administration of the Chailey Rural District* and the *Sanitary Circumstances of Biggleswade Rural District* respectively.

[1] London: Eyre and Spottiswoode, East Harding-street; Edinburgh: John Menzies and Co.; Dublin: Hodges, Figgis, and Co.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 7115 births and 5082 deaths were registered during the week ending Feb. 10th. The annual rate of mortality in these towns, which had declined from 30·9 to 21·2 per 1000 in the five preceding weeks, rose again last week to 22·8. In London the rate was 20·4 per 1000, while it averaged 24·4 in the 32 provincial towns. The lowest death-rates in these towns were 12·6 in Croydon, 14·4 in West Ham, 15·8 in Swansea, and 16·5 in Nottingham; the highest rates were 32·3 in Blackburn, 34·2 in Salford, 34·3 in Wolverhampton, and 35·1 in Preston. The 5082 deaths in these towns included 449 which were referred to the principal zymotic diseases, against numbers decreasing from 578 to 427 in the seven preceding weeks; of these 138 resulted from whooping-cough, 115 from diphtheria, 82 from measles, 39 from diarrhœa, 37 from scarlet fever, 34 from "fever" (principally enteric), and four from small-pox. No fatal case of any of these diseases occurred last week either in Derby or in Birkenhead; in the other towns they caused the lowest death-rates in Nottingham, Bradford, and Hull, and the highest rates in Wolverhampton, Liverpool, Salford, and Preston. The greatest mortality from measles occurred in Plymouth, Wolverhampton, Leicester, and Halifax; from scarlet fever in Oldham and Sunderland; and from whooping-cough in Croydon, Liverpool, Salford, and Newcastle. The mortality from "fever" showed no marked excess in any of the large towns. The 115

deaths from diphtheria included 51 in London, 12 in Sheffield, 11 in Leeds, eight in Leicester, and five in Liverpool. Three fatal cases of small-pox were registered last week in Hull and one in Leeds, but not one in any other of the 33 towns. There were 17 small-pox patients under treatment in the Metropolitan Asylums Hospitals at the end of the week, against 24 and 21 at the end of the two preceding weeks; one new case was admitted during the week, against five, four, and none in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Feb. 10th, was 2089, against numbers decreasing from 3578 to 2179 on the 12 preceding Saturdays; 157 new cases were admitted during the week, against 207, 190, and 174 in the three preceding weeks. Influenza was certified as the primary cause of 63 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had declined from 1221 to 432 in the five preceding weeks, further decreased last week to 423, and were 53 below the corrected average. The causes of 69, or 1·4 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Leeds, Hull, Newcastle, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Liverpool, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 23·0 to 23·7 per 1000 in the four preceding weeks, further rose to 27·1 during the week ending Feb. 10th, and was 4·3 per 1000 above the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·9 in Leith and 22·6 in Aberdeen to 31·3 in Dundee and 57·3 in Perth. The 836 deaths in these towns included 19 which were referred to measles, 18 to diarrhœa, 14 to whooping-cough, seven to "fever," three to scarlet fever, and not one either to small-pox or diphtheria. In all 61 deaths resulted from these principal zymotic diseases, against 81 and 66 in the two preceding weeks. These 61 deaths were equal to an annual rate of 2·0 per 1000, which corresponded with the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of measles, which had declined from 32 to 25 in the three preceding weeks, further decreased last week to 19, of which 15 occurred in Glasgow and three in Paisley. The deaths from diarrhœa, which had been 23 and eight in the two preceding weeks, rose again to 18 last week, and included six in Glasgow and six in Dundee. The fatal cases of whooping-cough, which had been eight in each of the three preceding weeks, increased last week to 14, of which six were registered in Glasgow, four in Perth, and two in Aberdeen. The deaths referred to different forms of "fever," which had been three and five in the two preceding weeks, further rose to seven last week, and included four in Glasgow and two in Edinburgh. The three fatal cases of scarlet fever showed a decline of eight from the number in the preceding week, and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 172 and 212 in the two preceding weeks, further rose to 241 last week, but were 105 below the number in the corresponding period of last year. The causes of 27, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 50·3 to 35·5 per 1000 in the five preceding weeks, further fell to 29·7 during the week ending Feb. 10th. During the past four weeks the death-rate in the city has averaged 37·0 per 1000, the rate during the same period being 22·3 in London and 24·8 in Edinburgh. The 199 deaths registered in Dublin during the week under notice were 39 below the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 10 and 12 in the two preceding weeks; of these five resulted from diphtheria, five from whooping-cough, three from measles, two from scarlet fever, two from diarrhœa, and not one either from small-pox or from "fever." These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 1·8 in London and 0·9 in Edinburgh. The deaths referred to diphtheria, which had been three, one, and two in the three preceding weeks, further rose to five last week. The fatal cases of whooping-cough, which had been three and none in the two preceding weeks, rose again last week to five. The deaths from measles, which had declined from 18 to four in the four preceding weeks, further decreased to three last week. The two fatal cases of scarlet fever showed a slight excess over the average of recent weeks. The 199 deaths in Dublin last week included 30 of infants under one year of age and 66 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the number in the preceding week. Four inquest cases and three deaths from violence were registered, and 56, or more than a quarter, of the deaths occurred in public institutions. The causes of 14, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet Surgeons G. J. Irvine and H. T. Cox to be Deputy Inspector-Generals of Hospitals and Fleets.

The following appointments are notified:—Fleet Surgeon A. J. J. Johnston to the *Edgar* for medical charge on voyage to England and afterwards to Plymouth Hospital. Staff Surgeons: A. F. Harper to the *Edgar* for medical charge on voyage to China and afterwards to the *Victorious*; and J. H. Whelan to the *Thunderer*. Surgeons: P. H. Bannister to the *Benbow*; R. S. Osborne to the *Tamar*, additional, and to the *Robin*, on commissioning, to take passage in the *Edgar*, and for duty, if required. A. G. Eastment, lent to the *Rodney*; and F. R. Mann to the *Britannia* for the *Racer*. Surgeon J. E. Powell to the *Centurion*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. Johnston, A.M.S., is appointed Assistant Director at headquarters.

Captain Henry Arthur Berryman, from half-pay, to be Captain, with precedence next below K. M. Cameron, vice A. L. Borradaile, promoted.

Lieutenant-Colonel R. T. Beamish proceeds to Woolwich for medical charge of No. 8 General Hospital. Major H. Carr is posted to the Station Hospital, Shorncliffe, for duty. Major J. S. Edye and Lieutenant E. McDonnell, and Surgeon-Captains H. E. Mortis and J. E. O'Connor, Militia M.S.C., joins No. 8 General Hospital for duty. Major A. Wright joins at Woolwich. Major E. C. Freeman has arrived at Portsmouth, and Major H. B. Mathias, D.S.O., has arrived in the Home District.

IMPERIAL YEOMANRY.

C. B. Howse to be Medical Officer.

YEOMANRY CAVALRY.

Surgeon-Lieutenant-Colonel W. J. Naismith, Ayrshire (Earl of Carrick's Own), has been seconded for service with the Imperial Yeomanry.

ARMY MEDICAL RESERVE OF OFFICERS.

To be Surgeon-Lieutenant-Colonel: Surgeon-Major J. H. Hay and Surgeon-Major T. Fort.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Major W. W. Lake to be Surgeon-Lieutenant-Colonel.

VOLUNTEER CORPS.

Artillery: 2nd Middlesex: Surgeon-Captain A. Thorne to be borne as supernumerary in this corps while serving in the City of London Imperial Volunteers. *Rifle:* 2nd Volunteer Battalion the Northumberland Fusiliers: John Clay to be Surgeon-Lieutenant. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders: Surgeon-Captain J. H. Anderson to be Surgeon-Major. 1st Volunteer Battalion the Worcestershire Regiment: James Howard Wilkinson to be Surgeon-Lieutenant. 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Lieutenant D. R. Dobie to be Surgeon-Captain. The following officers will be borne as supernumeraries in their corps while serving in the City of London Imperial Volunteers: 16th Middlesex (London Irish): Surgeon-Captain E. W. St. V. Ryan. 20th Middlesex (Artists): Surgeon-Captain R. R. Sleman.

THE ROYAL ARMY MEDICAL CORPS AND THE INDIAN MEDICAL SERVICE.

The following is a list of successful candidates for commissions in the Royal Army Medical Corps at the recent examination in London.

Order of Merit.	Names.	Marks.	Order of Merit.	Names.	Marks.
1.	T. Biggam	2554	10.	W. J. P. Adye-Curran	2185
2.	H. Richardson	2532	11.	J. Powell	2156
3.	C. H. Carr	2490	12.	R. L. Argles	2099
4.	W. L. Baker	2462	13.	J. G. Foster	1975
5.	F. W. Cotton	2320	14.	F. P. Lauder	1970
6.	E. Bennett	2275	15.	E. G. Ford	1803
7.	F. M. Parry	2248	16.	F. S. Walker	1802
8.	B. R. Dinnis	2221	17.	L. M. Purser	1800
9.	J. S. Twigg	2185			

The following is a list of the candidates for Her Majesty's Indian Medical Service who were successful at the competitive examination held in London on Feb. 2nd and following days:—

	Marks.		Marks.
J. D. Graham	3640	J. C. S. Oxley	2615
C. A. Sprawson	2936	H. R. Macnee	2560
W. H. Cazely	2928	W. Lapsley	2524
W. V. Coppinger	2812	W. D. A. Keys	2497
P. A. Browne	2785	A. Chalmers	2459
A. Spitteler	2768	J. Good	2453
M. Mac Kelvie	2651	W. M. Houston	2402
L. J. M. Deas	2621	G. J. G. Young	2363
W. G. Hamilton	2620	S. R. Godkin	2282

VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the undermentioned officers:—*North-Eastern District: Artillery:* 1st Lincolnshire Volunteer (Western Division, Royal Garrison Artillery): Surgeon-Lieutenant-Colonel Edward Bass Reckitt. *North-Western District: Rifle:* 1st Volunteer Battalion the Royal Warwickshire Regiment: Surgeon-Major Edward Luke Freer. *Scottish District: Rifle:* 7th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel James Bruce Ronaldson. 2nd (Berwickshire) Volunteer Battalion the King's Own Scottish Borderers: Surgeon-Major Robert Shirra Gibb. *Southern District: Rifle:* 2nd Volunteer Battalion the Hampshire Regiment: Surgeon-Major Richard Thompson Cæsar. *Western District: Artillery:* 1st Gloucestershire Volunteer Artillery: Surgeon-Major John Shaw Carleton.

A good service pension of £100 a year has been granted to Surgeon-General William Taylor, C.B., A.M.S., P.M.O. on the Staff of the Commander-in-Chief in India.

TRANSVAAL WAR NOTES.

Major A. S. Rose, R.A.M.C., was wounded in the action at Potgieter's Drift.

In view of the recent Army Order officially sanctioning the services of officers and men of volunteer medical staff corps and bearer companies of volunteer infantry brigades for South Africa steps have been taken to at once raise two bearer companies from the brigades of the Home district.

On the outbreak of the war the committee of Queen Charlotte's Lying-in Hospital undertook to receive into the hospital for their confinements the wives of soldiers and sailors on active service in South Africa. Orders of admission have been issued to 37 women, and 15 others are being attended as out-patients.

The citizens of Edinburgh have resolved to raise a fund by public subscription of not less than £12,000 for providing a Scottish hospital for South Africa. The doctors and nurses will all be Scottish, but the use of the hospital will not be confined to the treatment of Scottish soldiers only. More than £6000 have already been received.

The American Field Hospital, the gift of Mr. Van Alen and consisting of 25 beds, left the Albert Docks on Thursday, Feb. 8th. Captain E. E. Powell, R.A.M.C., is in charge of the hospital, and the orderlies have been furnished by the St. John Ambulance Brigade. Mr. S. Osborn, F.R.C.S. Eng., chief surgeon to the Metropolitan Corps of the St. John Ambulance Association, who has been attached to this hospital, left for South Africa in the *Norman* on Feb. 10th.

A telegram from Modder river states that an Army Order has been issued improving the status of civilian medical men.

A telegram from Lady Randolph Churchill at Durban states that on the hospital ship *Maine* there are now 140 patients, among them being stretcher-bearers and men of the Royal Army Medical Corps. There are 16 cases of dysentery, 14 of rheumatism, three of enteric fever, and four of ague.

Messrs. W. C. Windover, Turrill, and Sons of Long Acre and South Audley-street have ready for shipment to South Africa two "Manders's Flying Hospital Cars" and two "Manders's Flying Ambulance Cars" for service with the Imperial Yeomanry. The first-named cars are somewhat similar to the Irish jaunting cars and the wounded are prevented from falling from the seats of the cars by straps. Between the two seats, on each of which there is accommodation for four men, the dressings, water, &c., are placed, and there is also a seat for the surgeon. The flying ambulance cars are each fitted with six stretchers. All the cars are fitted with springs specially constructed for travelling over rough roads.

Dr. L. J. Weatherbe, police surgeon of the borough of Sheffield, has volunteered for service in South Africa with the Imperial Yeomanry and has been accepted by the War Office.

The St. John Ambulance Association, which is entrusted by the Central British Red Cross Committee with the reception and forwarding of material for the sick and wounded to the seat of war, has already despatched 5855 pyjamas, 9293 shirts, 23,603 handkerchiefs, 2319 pillows, 7330 pillow slips, 6409 pairs of socks and stockings, 6210 slippers and shoes, 1471 knitted caps, nightcaps, &c., 246 pairs of gloves and mittens, 1080 jackets, woollen waistcoats, and cardigans, 4735 mufflers, 1021 nightingales and hospital capes, 694 cushions, and many thousands of other articles.

The *Times* publishes a letter from Mr. Anthony A. Bowlby to the Duke of Portland, dated "Portland Hospital, Rondebosch, Jan. 15th," in which he says: "The arrangements made by the Royal Army Medical Corps for the treatment of the wounded on the field and for their transference to the base hospitals are altogether admirable, and it is certain that in no previous war undertaken by any country have such facilities been afforded for the prompt succour of those injured or for their suitable and safe conveyance by properly equipped trains. Many men have arrived at the hospitals in the neighbourhood of Cape Town within 48 hours of being wounded some 600 miles away, and it must be remembered that within this time they have been dressed on the battlefield, conveyed in ambulances to field hospitals, and subsequently removed to the trains. It is in consequence of these arrangements that the wounded are all treated at general hospitals, placed in the most convenient and healthy situations, where the work of the Royal Army Medical Corps can be supplemented by the experience of civilian surgeons, and it is here consequently that the Portland Hospital is at present of more use than it could be elsewhere. The excellence of the general arrangements in this war for the treatment of the wounded cannot be too widely known." A letter from Lord Roberts to the Duke of Portland says: "It will, I am sure, please the duchess and you to know that the Portland Hospital is all that could be desired. ..... I have never seen a nicer, better-managed, or more comfortable hospital."

THE PUBLIC AND THE WAR.

One of the most striking features of the present war has been the remarkable manifestation of enthusiastic patriotism displayed on all sides. There is no end to the generous efforts that are being made to help our soldiers in the field and to take care of those who have been left behind. What is wanted now is to see that the philanthropic work is properly turned to account by effective organisation. The distribution of all the stores of clothing, food, medical comforts and appliances, and tobacco that have already reached the Cape must be a source of some embarrassment and difficulty to the authorities there. As regards the hospitals and hospital ships that have been provided by charitable organisations and munificent individuals much money and care have been expended in fitting them out and some of them are already doing excellent service. They have accommodated quite a number of wounded officers and men and all who have gone round the institutions, the Portland Hospital, for example, and inspected the arrangements have expressed their satisfaction; and, what is more to the point, the patients themselves are gratified with the treatment they are receiving.

MAJOR MARCHAND'S MEDICAL OFFICER.

The name of Dr. Emily, who was recently promoted out of his turn to the rank of medical officer of the first class, has now been officially inscribed on the officers' roll of the Legion of Honour as an additional reward for his "exceptional services." Dr. Emily possesses an excellent record for professional efficiency and zeal and has contributed several papers of merit to medical journals. His method of treating

guinea-worm by the injection of corrosive sublimate solution, if possible, into the body of the parasite, but, failing this, into the tissues adjoining it, would seem to deserve a trial.

Correspondence.

"Audi alteram partem."

"THE PREVENTION OF SYPHILIS BY TREATMENT."

To the Editors of THE LANCET.

SIRS,—With reference to the letter in THE LANCET of Feb. 3rd (p 341), from Dr. C. R. Drysdale under the above heading, while probably many will agree with him that "syphilis being a contagious disease ought if possible to be prevented" by some "legal plan," some on the other hand may not estimate at a high value the means which he mentions to that end—"notification and prosecution of persons who voluntarily infect their neighbours." Notification implies the possibility of recognition of the existence of disease, and as one objection raised against the value of compulsory examination was based on this asserted difficulty the two methods are on this point, assuming the existence of the difficulty, on the same footing. Besides, the value of notification towards prevention lies in the extent and degree to which it would bring the disease under treatment; in range it is limited to those coming within the professional purview of the notifier, it can have no action on that large number who while diffusing the disease abstain from all application for treatment until physically compelled to seek relief; and to be valuable for prevention it must be associated with efficient continuous treatment so long as the disease remains capable of transfer by contagion and with compulsory withdrawal of the sufferer from all ways of its dissemination. Hence from a sanitary point of view the value of notification over the compulsory examination and enforced detention of the old Acts is not apparent; rather it is less in that so far as prevention is concerned it starts from pronounced disease compelling the sufferer to seek treatment, while the compulsory examination anticipated this period and withdrew the infecting person from acting as a focus of infection long before that condition had been arrived at, though to be efficient its mode of action follows the old compulsory lines. Nor is it apparent how notification could "give us correct information as to the extent of the evil" in view of its necessarily limited range of action, and before it can be acted upon the notifier must be relieved from the present legal disabilities attendant upon it.

Again, with respect to the "prosecution of persons who voluntarily infect their neighbours" the difficulties attending the procedure are many. We know already how profoundly obnoxious was the assumption of the rôle of the informer when directed only towards the recognition of the existence of disease and how much greater would be the obstacles when the additional object of punishment was entailed. I venture to think that these suggested means of prevention are, from a sanitary point, no advance over the old extinct procedures.

In his last paragraph Dr. Drysdale, referring to the last meeting of the British Medical Association, mentions an apparent wish on the part of some "to introduce the Parisian system into London," concerning which system he makes extracts from a pamphlet sent him recently by Professor Fournier. Although present and taking part at this signally inconclusive and abortive meeting and hearing a variety of opinions I cannot recall to mind any prominence given to the system bearing this designation. Speaking personally, my advocacy was for the prevention of syphilis by curtailment and control of its main diffusing medium—prostitution—and by sanitary legal action against its transfer. And, indeed, by the extracts given from Dr. Fournier's pamphlet we find that even in Paris the prevention of syphilis through "repression of prostitution by administrators and police measures" was not without "benefits," though the measures were "insufficient for their purpose" and failed "because so disgracefully unjust in application"—features of a remediable character and having reference not to the principle but to the means adopted. And that failure is no necessary sequel is shown by the results arrived at in the German army and in our own, and by the experience of the Ionian Islands and of Malta, as stated by Sir H. Storks and Mr. Inglott, to mention no others of like import.

The great extent to which the disease prevails in Paris is pointed out by Dr. Fournier, and the evidence to the same effect among us is indicated in the addresses to the Prime Minister in June last; the formulation of a plan is wanted, not facts of disease prevalence which are palpable enough. After repeated references to the scandalous state of our streets and to the insane toleration of solicitation, the London Council for the Promotion of Public Morality have recently held a meeting for attacking one contributing factor; but what is unquestionably wanted is not isolated action on one point, good though it be in itself, but combined action directed both against prostitution with all its promoting influences and against the resulting physical diseases, if substantial durable results are to follow; and such action must be compulsory in nature, as recognised by Dr. Drysdale.

I am, Sirs, yours faithfully,

FRANCIS H. WELCH, F.R.C.S.Eng.,
Feb. 12th, 1900. Surgeon-Colonel (retired), A.M.S.

"THE PHYSIQUE OF THE BOERS."

To the Editors of THE LANCET.

SIRS,—In the interesting article on the physique of the Boers in THE LANCET of Feb. 10th (p. 410) a statement occurs which I think will cause some surprise to those of your readers who have lived in Holland. The writer says: "In so far as they are of Dutch descent the Boers should be small. The French blood which is mingled with that of the Dutch would not tend very considerably to increase the height of the Boer. The French, though taller than the Dutch, are not so tall as the English." I believe that the notion that a Hollander is a short squat man is derived from the days when almost our only intercourse with him was in his sailor capacity, sailors being generally men of short, thick-set build. We are also familiar with his outward man through the seventeenth-century painters of rural life whose rustics are generally clad in garments that give them a "broad-in-the-beam" aspect. What struck me in the Dutch physique—I lived several years in Holland—was that it was by no means of the Teniers type and that gaunt tall men were quite as common as with us English. The Dutch are certainly of a greater *average* height than the French; but the stature of both varies somewhat in the different provinces of the two countries. The mingling of the French with the Dutch blood would, I venture to say, tend to diminish rather than to increase the height of the Boer; but it is doubtful whether the influence of the French upon the Boer physique is not *une quantité négligeable*.

I am, Sirs, yours faithfully,

HENRY ATTWELL.

To the Editors of THE LANCET.

SIRS,—Your correspondent who wrote last week (p. 401) on the subject of the physique of the Boers scarcely does justice to the physique of the Briton. He takes as his standard of comparison a crowded street in Glasgow, factory women in a Lancashire town, the inhabitants of a West-end slum, and ditto East-end, thus comparing a healthy agricultural class with the unhealthiest classes in the United Kingdom, if we except the healthy open-air workers in Glasgow. If he cares to revise his opinion let him go to any agricultural show in the country or even to the cattle show at Islington, and he will see a class more than able to hold its own in comparison. As it is not the time of year for these shows the next best opportunity is at a meet of the hounds or a local country steeple-chase. Then apart from the distinctly agricultural class take the athletes from the football and cricket fields and other branches of athletics. He seems needlessly troubled about replacing the Highland Brigade; it would be very interesting to know how many of them are pure crofters and how many town-bred; I fancy your correspondent would be astonished at the figures.

I am, Sirs, yours faithfully,

Forest-gate, E., Feb. 12th, 1900. E. T. A. BOYTON.

"DEATHS UNDER CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—Dr. Edmunds has still failed to grasp the meaning of my query, "If the patient does not absorb a similar dose

of chloroform in each case why do we get a similar result?" (with a Skinner's mask or a Krohne inhaler). By "we" I mean Dr. Edmunds and myself and by "similar result" I mean a quiet anæsthesia with regular pulse and respiration and with contracted pupils. A list of deaths under anæsthetics (some of them given from a Krohne inhaler) is no answer to this query, to which I am still waiting a reply.

Dr. Edmunds's questions are: 1. "Can he show any method of measured dosage other than the volumetric administration of air charged with the vapour of the anæsthetic?" My answer is that by "dosage" I mean the amount absorbed by the patient, not the amount presented to him, and excluding the use of a closed inhaler, which is too dangerous, I know of no method of estimating accurately the amount of chloroform absorbed except by watching its effect on the pulse, respiration, and pupils. 2. "Can he show us any apparatus by which precise and registrable dosage can be secured other than by the improved Krohne inhaler?"

My reply is that neither the Krohne inhaler nor any other machine that I have met with ensures the patient's absorbing a "precise and registrable" amount of chloroform vapour. A large portion of Dr. Edmunds's letter is devoted to proving that while the Krohne inhaler can supply the patient with chloroform it cannot be expected to provide the administrator with brains. I quite agree. As in surgery so here; the rule holds good that multiplicity of instruments can never compensate for lack of knowledge. A further proof of the relative (not absolute) safety of the open method of administration is found in Dr. Edmunds's concluding remarks. He says: "*For some 40 years I was in the habit of giving chloroform off a towel or anything else. ..... I have never had any sort of anxiety about my chloroform in any single case.*" (The italics are mine.) Comment is needless.

I am, Sirs, yours faithfully,

Plymouth, Feb. 12th, 1900. C. HAMILTON WHITEFORD.

THE ELECTION OF A PARLIAMENTARY REPRESENTATIVE FOR THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—The result of the election for a Member of Parliament for the University of London should be a source of very legitimate pride to the graduates. The comments, however, which have appeared in the daily papers appear to show that the writers of the articles have not a very clear grasp of the facts which have influenced the electors. Although I cannot profess to have studied these articles with any great care the general impression which they have left on my mind is that the Conservative papers imagine that a great success has been won for the Tory party, and, on the other hand, that the papers which support the Opposition imagine that their party has been badly treated by a number of persons amongst whom they expected to find a majority of militant Radicals. The writers of the political articles in the daily papers cannot perhaps be expected to look at such a position as prevailed in this election from a broad standpoint, nor can they be expected to have any knowledge of the various side issues which in a constituency like that of the University of London necessarily affect a considerable number of votes. As a matter of fact, it seems to me that the election did not turn on political matters. Possibly a majority of the intelligent people in most constituencies consider that the present Government has obviously neglected its duties, but the same majority probably think no less strongly that members of the front Opposition bench if they were in power would prove no more capable. And it is my opinion that until a new party with a definite policy has been formed by the man who will within a short period be Prime Minister there will be no active agitation against the present Government.

The result of the election of a Member of Parliament by the University of London is satisfactory, in the first place, because beyond doubt the best man has been chosen. The newly elected Member by his training is eminently fitted to instruct the Members of the House of Commons on matters of great importance to the country, concerning which most of them are either ignorant or careless—careless, possibly, because no votes are to be gained by paying attention to the subjects. And apart from the positive side of the question it is satisfactory that the University of London has not secured as its representative a man whose reputation has been made in municipal provinces. Again, it is satisfactory that the London University has avoided electing the gentleman who was so quick in obtaining the support of an electioneering association with which he had for a long time been working. It might very easily have happened that the determining cause of the selection should prove some dissatisfaction with the manner in which the affairs of the University have been managed. But the many graduates who strongly disapprove and regret the alteration which has been made or is about to be made in the constitution of the University, putting all personal considerations aside, have undoubtedly voted for the man they thought would best represent the University.

The London graduates who in the past have had to work very hard to obtain a degree have felt aggrieved that by an alteration in the constitution of the University it is practically certain to happen that degrees of the same denomination will be obtained on much easier terms. There can be no doubt whatever that for a long time there has been considerable and great injustice to the London medical student, and that he has not been able to obtain a medical degree without an enormous amount of work in subjects beyond the ordinary medical curriculum. A student who went to Edinburgh or one of the other Scottish universities was, if he were a man of ordinary ability and fair application, practically certain to obtain at the end of his time a medical degree which he would afterwards find of great use to him in his battle with the world. If instead of choosing Edinburgh or some other Scottish university the same student had come to London he would not have been able with the same amount of work and in the same time to take a medical degree, because the standard of the University of London required either that he should spend an extra amount of time over the work or that he should work harder. The teachers at the London medical schools, some of whom have been very active in obtaining the alteration in the constitution of the University, have undoubtedly, whether consciously or not, been dominated by the idea that a more easily obtained degree will be accessible under the altered constitution. Now, by some of the older medical graduates this has been thought a distinct grievance, and it was quite within the bounds of possibility that they might have shown their discontent with the alterations by voting not for the best man, but for someone entirely opposed to the alterations which are now to take place in the University of London. Again, it is conceivable that many members of the University, which has hitherto been free from any theological connexion, are looking forward with dislike to an alteration by which colleges which represent some of the better known forms of heresy become parts of the University; and that there should be thus a department formed for the study of pathological theology.

It is a most hopeful portent for the future success of the University that setting aside all extraneous considerations the London graduates have elected a Member who will be able both to enlarge the sphere of usefulness of the University and also to instruct the Members of the House of Commons on subjects on which they are at present in sad need of light and leading.

I am, Sirs, yours faithfully,

AN OLD MEDICAL GRADUATE.

THE ORGANISATION OF THE PROFESSION.

THE BATTERSEA AND CLAPHAM MEDICAL SERVICE.

(FROM OUR SPECIAL COMMISSIONER.)

IN October, 1896, a few medical men residing in Battersea and Clapham held a small meeting to discuss the question of medical aid for those who could not afford to pay the ordinary fees. Dr. R. H. Barkwell took the initiative in this movement and was elected president of the association which was formed on that occasion. At this time most of the contract work done in these neighbourhoods was in the hands of the London and Manchester Industrial Assurance Company.

Limited, and the medical men naturally objected to be in the service of an industrial company. They were imbued, on the contrary, with the idea that such insurance against sickness by small weekly payments as might be justified should be organised by those who did the work—namely, the medical attendants themselves. The medical men objected to being used as decoy ducks for an insurance business, and thought that the dignity of the profession was likely to be compromised if they worked for an organisation when they had no voice in the management. At the first meeting there were nine medical men present and seven of them at once undertook to form the nucleus of a medical service to be managed by the medical men themselves. Of course efforts were made to detach the medical officers from the service of the London and Manchester Industrial Assurance Company, but only two among them responded. The others expressed the fear that the company would import medical men to take their places if they sent in their resignations and that there was no organisation sufficiently strong to support them in the struggle that would ensue. Indeed, this fear was subsequently justified, for the company in question has imported two practitioners, thus increasing the competition prevailing. In spite, however, of this danger the small group of medical men who had met together were not long in setting to work. At their first meeting they adopted a set of rules, this task being greatly facilitated and simplified by a neighbouring organisation of the same description—the Wandsworth Medical Aid Society. The rules of this latter body served as a model and basis for the new society now brought into existence and designated the Battersea and Clapham Medical Service.

This society differs from the old provident dispensaries by the facts that the medical officers themselves form the executive committee, that it is absolutely self-supporting, and that no appeals whatsoever are made for charitable donations. There are no honorary subscribers. The members consist solely of persons living in Battersea or Clapham who "are unable to pay for medical advice in the usual manner." All persons desirous of becoming members must make a declaration that they are unable to pay for medical attendance and that they are not suffering from any kind of illness, whether acute or chronic. Any inaccuracy in such declarations confers on the committee the right of immediately expelling the member, and all the contributions paid by him are forfeited. The members pay 1*d*. per week. The highest amount charged for any number of children under 12 years of age is 4*d*. per week, and these must all belong to the same family. Further, the members must pay 1*d*. per quarter as a management fee, the maximum sum per family being 4*d*., and 1*d*. is charged for each new card of membership. The payments are made in advance and are marked on these cards. All payments are made to the collectors except in cases of certificates, vaccinations, and confinements, when these have been arranged for apart from the service. Members who are in arrears with their subscriptions for more than one month must pay 1*d*. per week fine, and if in arrears for more than 13 weeks their names are erased from the books. If, however, the committee so decide the excluded members may be readmitted on paying the arrears and fines for one quarter. Of course persons who are actually suffering from illness are not admitted unless especially recommended by one of the medical officers of the service, and then they must pay for one quarter in advance and an entrance fee of 3*s*. 6*d*. Members who have contracted a disease through their own fault are not entitled to medical attendance. Married women who are members will receive medical attendance during their confinement on payment of from 10*s*. 6*d*. to £1 1*s*. This payment may be effected by weekly instalments if the whole sum is paid in advance. Miscarriage or premature birth at any stage, cannot of course, be paid for in advance. The fee for this is 10*s*. 6*d*. and members are allowed three months to pay the same in weekly instalments, but this does not exempt them from the payment of their ordinary subscriptions. If such payments are not effected in the time prescribed the committee may erase the defaulters from the list of members. The medical officers have the right to refuse to attend members for confinements, but they must attend these patients when a month has elapsed after the confinement. The medical officers do not visit domestic servants at their master's house, but servants may obtain advice at the medical attendant's surgery or in their own home if it is situated in the district. Messages for attendance must be received before 10.30 A.M., otherwise a fee of 1*s*. 6*d*. is charged. For medical certificates a fee is charged of 1*s*. each. The medical officers supply medicines, but the members must provide their own bottles. Such, briefly, are the rules of the society.

No sooner was it known that such an organisation was about to be established than several persons applied for the post of collector. One among these was selected and he has been retained in the employment ever since. The first subscribers were enrolled in the second week of November, 1896, so it will be seen that not much time was lost in the work of preliminary organisation; indeed, subscriptions were coming in within a month of the date on which it had been decided to establish the medical service. During the first two months the medical service had 63 members and in 1897 there were some 400 members. The receipts from subscriptions and fines amounted for the first seven and a half months to £103. During the last six months of 1898 they rose to £175 and during the last six months of 1899 to £177. Thus there has been a steady progress, but the general expenses are still very heavy as compared with the receipts. The relative expense would diminish if the number of members was augmented, as there would be a larger margin of profit. Thus 8*s*. 6*d*. per week is paid for the rent of three rooms. One of these rooms serves as a meeting-place for the committee and as the collector's office. Here the registers and books are kept and are open at all times to the inspection of the medical officers. The collector himself receives a regular salary of 9*s*. a week and has the two other rooms attached to the office rent free to live in. Then he receives a commission of 10 per cent. on all the money he collects. But he has to give the whole of his time to the work. The number of members has now increased so much as to make it necessary to employ a second collector and he is paid 5*s*. a week and 10 per cent. commission but is expected to give only half his time. Last quarter these and other working expenses amounted to £23 12*s*. 11*d*. and the receipts or amount collected was £83 9*s*. 9*d*. It will be seen, therefore, that the working expenses absorbed more than a quarter of the total receipts. This, however, will not be the case when the number of members has increased.

Here, as elsewhere, the difficulty of establishing an effective check on the collectors has not been solved. The service is quite and absolutely satisfied with its collectors, but if at any time a dishonest collector should be employed it would be difficult to detect defalcations. The principal check is for the medical attendant to insist on seeing the patient's card, but if the member is not ill there is no pretext for examining the card. Certainly when from the books it appears that a member has not paid, independent inquiries might be made at the member's house. But who is to make such inquiries? It is hardly to be expected that medical men will undertake this detective work every time a few pence are missing. On the other hand, there is this security, that a collector, even if he be dishonest, would not run the risk of a criminal action for the sake of a few pence here and there. The next great difficulty is involved in the question of touting. In this respect the insurance companies have no scruples and their collectors do not hesitate to tout. The recruiting of members for the Battersea and Clapham Medical Service depended at first on the medical men themselves who brought in the members of their own private clubs. Some of the medical officers had poor patients who instead of paying fees paid small sums weekly direct to their medical advisers. These patients were handed over to the collectors. Then when a medical practitioner found that his patient could not pay the usual fees he suggested that he should enrol himself as a subscriber to the medical service. But the committee is constantly striving to impress on the collectors that they must not tout. A few weeks ago the following resolution was carried unanimously:

> That the secretary be instructed to write to each of the collectors calling their attention to the fact that canvassing for patients in any part of the district is not allowed.

The fact that the medical service has now a staff of 16 medical attendants greatly contributes to its popularity, as it gives the members a large choice. If in this the advice of the collector is asked by a new member the rule is that he should recommend the medical officer who is nearest at hand. Members have the further advantage that they may change their medical attendant, but not during an illness. To change their medical attendant they must wait till the half-yearly meeting and give notice to their collector a fortnight in advance.

With regard to the possibility of abuse, a list of new members is drawn up from time to time and sent round to all the medical officers. If any one of them has reason to believe that one of the members can afford to pay the usual fees he need only draw his pen through the name. The member is then at once struck off the books, so that it rests in the hands of the medical men themselves to prevent abuse. Organised on these lines the service is working very smoothly. Formerly the managing committee or board of the medical staff met every month, but everything is now so well organised that there is little or no work for them to do; consequently, unless some unexpected emergency arises, they now only meet once a quarter. Thus far, then, the service has been fairly satisfactory, but the profits are not large. Some 25 to 30 per cent. must be deducted from the receipts to cover the cost of the drugs which the medical officers have themselves to provide, and we have already seen that the working expenses slightly exceed another 25 per cent. It is, therefore, probable that the net profits do not amount to quite 50 per cent. of the receipts. Consequently there is need of improvement in this respect.

To my mind the weak side of this organisation is certainly the limited scope of its action. It has taken up one single question and has therefore only received the support of those who are interested in that one question. The time has perhaps arrived when an appeal might be made to all the practitioners of the districts in question to join hands and deal with all the problems in which the profession is concerned. What is wanted is a general medical union, not merely for the purpose of providing medical aid to those who are too poor to pay the usual medical fees, but to deal with other questions at issue, such as the abuse of hospitals and the competition of the clubs and the insurance companies. Such grievances cannot be abated by the work of the 16 medical officers of the medical service. They can only be dealt with by a powerful and general union of all the practitioners of the district such as that formed at Cork and recently described in these columns.[1] But the medical service now established could serve as a centre and starting-point for the formation of a general medical union of the practitioners of the districts of Battersea and Clapham. Dr. W. Carey, 41, Bolingbroke-grove, Wandsworth-common, S.W., is the secretary of the Battersea and Clapham Medical Service. Doubtless, if he received some encouragement from the practitioners in these districts the organisation that he represents would take the initiative in convoking a meeting so as to form a union of all medical men in the neighbourhood for the purpose of dealing with the ethical and economical problems which affect the general interests of the profession.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Progress of the Plague Epidemic: its Continued Spread to Fresh Areas and its Serious Development in Bombay City.—The Jigger Pest.

THE plague mortality in India for the week ending Jan. 21st shows that the disease is again increasing. The record of the week is 1595 deaths against 1279 in the previous week. The disease, moreover, is spreading to fresh places. We hear, for example, from Patna that about 13 villages in the Barah subdivision of the Patna district are badly infected and that some hundreds of cases have occurred, although the official returns only give 52 deaths. A case of plague detected in Rangoon has proved fatal, the victim being a girl who arrived from Calcutta on Jan 13th. The house in which the deceased died has been burnt and a segregation camp has been formed in an isolated position. The case appears to have escaped the notice of the Government medical inspecting staff. The town of Navsari, which is in the Gaekwar territory, and is the headquarters of the Parsee priesthood, hitherto free, now reports a serious outbreak. Again, a case has occurred at Arrah and an outbreak of a serious character is reported from Tripatore in the Salem district, where the whole town is said to be infected. I give these details to emphasise the actual state of the plague epidemic which is not always correctly indicated in the official returns. Plague has greatly increased during the past week in the Mysore State (253 cases being reported as against 40 last week), in the Hyderabad State (154 cases, against 101), and in Bombay City (official figures being 471, against 379). As I foreshadowed Karachi is threatened with a renewed outbreak. More cases have occurred and evacuation from infected areas has now been adopted. It is satisfactory to hear that inoculation has been received with favour by the Khoja community. In Bombay city the general mortality for the week has risen to 2289. As the quinquennial average without plague is about 570 for the week this enormous mortality shows how severely the disease is once more raging. Small-pox and measles continue, but deaths from these diseases account for a very small part of the increase. Week after week the official returns of plague for Bombay city give a small proportion of the actual mortality, and this week 471 deaths only are recorded. I must point out that the mortality from plague alone in Bombay city possibly amounts to 1500, for the week in question, as there are no other causes to account for the increase. In the city of Calcutta there is not much change. A few cases continue to be seen and the plague mortality for the week is estimated at 56. From an examination of the mortality tables for the whole of the year I find that the deaths returned as from plague in Calcutta exceed the excess of the mortality above the average. It must be borne in mind, however, that Calcutta has been but little affected by cholera and has been otherwise exceptionally healthy during the year. The estimate of plague is therefore probably correct. But many observers do not accept the same conclusion regarding suspected cases. The causes of death in these cases may be very doubtful, but on the above grounds I should be more disposed to consider that they arose from natural causes and were not due to plague. At the present time both the city and suburban districts have a higher mortality than normal. In view of the discovery of more living cases of plague, the continued high minimum of estimated plague mortality, and the interval which has now elapsed since the last definite development I regard the outlook as somewhat threatening.

The Government of India have published for general information the following memorandum of Dr. Beeper, principal medical officer to the German Imperial troops in East Africa, on the mode of treatment of the jigger pest:—

The jigger has become an unpleasant trouble to man, as the pregnant female bores with its head into the human skin and in consequence of the large quantity of eggs swells to the size of a small pea and in the shape of a white ball. This results in a small ulcer, the skin not being red in the beginning, but gets inflamed in the course of a few days. If the parasite is not removed the inflammation increases and matter forms, whereby the parasite is then removed. The trouble caused by the jigger at the commencement is of small account. The pain of the boring with which it enters the skin is so small that it is usually not noticed. Later there is irritation in the affected part. With increasing inflammation the irritation gets stronger and can attain the length of pain. Festering wounds, if not cleaned, as in the case of all neglected wounds, can cause serious inflammation, gangrene, and even general blood-poisoning. As the jigger lives on the ground it seeks out the foot as the most suitable part for its purposes—the soles of the feet, especially the toes, these being parts more protected from rubbing, the free ends underneath the nails, the wrinkles of the joints, &c. It is rare for it to attack the thighs or scrotum and other parts of the body.

The mode of prevention and treatment is easy. The wearing of thick boots, such as are specially worn by Europeans and soldiers, is a strong protection against jiggers. Still better are high boots. It is recommended to rub copaiba balsam or Peru balsam into the feet or to powder the stockings with insect powder. The principal thing, however, is to have the feet carefully examined—a matter of vital importance to the bare-footed population. As soon as a jigger is noticed in the skin it must be removed with the utmost care. With a view towards this the little opening made by the jigger in order to get into the skin must be enlarged, so that the periphery of the swollen insect is laid bare and easily scooped out, after which the wound should be cleaned out, and it generally closes quickly if kept clean. An unsuccessful attempt resulting in the pregnant jigger being lacerated appears to cause severe inflammation, which should be treated according to the usual rules of surgery. Natives usually attain great dexterity in removing the jigger. By carefully attending to the feet the above unfortunate results—ulcerations, &c.—are uncommon. In case of indolence or indifference on the part of natives attempts must be made to convince them. In many cases—for example, soldiers—punishment must be meted out to them. Where soldiers become incapable of marching or performing their duties on account of jiggers it is permitted to punish them, as, had they examined their feet daily and removed the jiggers in time, there would have been no need for them to absent themselves from duty.

Jan. 25th.

COMPENSATION TO A MEDICAL OFFICER.—The Local Government Board has determined that the compensation payable to Dr. C. W. Belfield for loss of office as district medical officer in the Bristol Incorporation shall be at the rate of £59 9*s.* 5*d.* per annum.

[1] THE LANCET, Feb. 3rd, p. 342.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Medical Charities.

IN a former communication[1] the financial condition of some of the Manchester medical charities was mentioned as given by Mr. F. Brocklehurst in his paper read before the Manchester Statistical Society. In addition to the hospitals the financial condition of the dispensaries as distinguished from the Provident Dispensaries is equally unfortunate. The Hulme Dispensary is working at a loss and the Chorlton Dispensary reports a deficit on the year of £69. Though not quite in the same category the Nurses' Institute cannot extend its operations for want of funds. But the spirits of hospital managers are not easily damped. The report of the Royal Eye Hospital states that the financial position is satisfactory, although, according to Mr. Brocklehurst, in 1898 deficits of £2000 had to be cleared off by realising on investments and last year the expenditure exceeded the income by £286. In this case Mr. Brocklehurst seems to have been inaccurate, for Mr. H. J. Goldschmidt, the honorary secretary, corrects his statement and shows that the deficit of £2000 was owing to an enlargement of the hospital, and that as regards the £286 this deficit and the £2000 were paid out of money received during the year and from cash in hand, and that no investments have been realised to pay for an excess of expenditure over income. It is cheering to see this, and instructive as showing how good one story may be till the other is told. The Eye Hospital does an immense amount of good work, the total number of out- and in-patients being 25,050. But more than half the number come from districts outside Manchester, and this wide area sends more patients than subscriptions. But Mr. Brocklehurst does not deal only with the financial question. According to the reports 217,527 cases of all kinds were treated in 1898, but as many of them were old patients reappearing in the various categories as new cases he thought that 150,000 would be about the number of individuals who had received treatment at the medical institutions in 1898. During the discussion on the paper Dr. J. Niven said that if the estimate were correct it revealed either exceptional poverty or that thousands were using the charities who were able to pay. Dr. D. J. Leech spoke strongly as to the misleading character of the reports issued by the charities, which were compiled to attract subscribers. He referred to the report of the Infirmary and said that the same person when transferred from the "in" to the "out" department was counted as two persons and that the number of separate people receiving treatment should be greatly reduced. Much the same criticism is no doubt applicable to the reports of the other medical charities, and it is clear that the whole system of manipulating hospital statistics should be altered. Mr. Brocklehurst made various recommendations, such as that the medical charities should adopt a uniform plan of issuing their reports. Another suggestion was that care should be taken to ascertain the degree of indigence of the applicants for medical aid. He also proposes a central receiving hospital, to be called the Medical Clearing House. The idea is that patients should first go there and then be drafted off to the various hospitals according to the character of the case and the speciality of the hospital. These propositions look somewhat revolutionary, but a good deal may be said in their favour. The reports should be guiding, not misguiding. They should give the number of cases of treatment, the number of individuals treated, and the places where they come from. Mr. Brocklehurst said that, so far as he could gather from the reports, the Salford Royal Hospital alone had any organisation for getting this information. Some of the other hospitals, however, make use of the machinery of the Provident Society for this purpose. Mr. Brocklehurst thought that a third of the patients were able to pay moderate medical fees and should be sent on to the Provident Dispensaries. But these institutions are not very popular among the general practitioners nor, it is said, among the class of people who are urged to make use of them. The medical men not connected with them say that the dispensaries take their patients, often by touting and other underhand methods, and that while their members are indignant at the dispensaries being called charities they are bolstered up and supported by the subscriptions of the well-to-do, without which they would die from inanition; while their supposed lack of popularity with the "people" is said to be due to the attention given being too perfunctory. All this shows how difficult is the question of attendance on those who are a little too well off to be hospital patients. In the *City News* of Feb. 3rd Mr. Charles Behrens, the honorary secretary of the Provident Dispensaries, to prove their popularity states that according to the last report "22,119 members availed themselves of their advantages" and that 34 medical men are connected with the different branches. He also quotes a passage from one of the reports which gives quite a flattering pat on the back to the medical staff of that particular branch: "The committee have again the pleasing duty of testifying to the painstaking and skilful treatment by the medical officers of those members who have had occasion to avail themselves of their services." No doubt this was well deserved, for having accepted their positions the medical staff would do their duty. At the annual meeting of the Pendleton Branch, on Jan. 29th, the report stated that there was a falling off in membership from 3961 in the previous year to 3876, and Dr. A. Stewart, who has been a consistent advocate of the dispensaries while trying to get rid of their abuses, expressed surprise that in so populous a working-class district there was so comparatively small a membership. He accounted for it partly from the improvident habits of the poorer class and partly from the facilities for obtaining hospital treatment without charge, saying that there was much competition amongst the hospitals, each liking to show a large number of patients, as this encouraged substantial subscriptions. At this very meeting the chairman protested against the institution being called a charity, although it is well known that these dispensaries would not exist long without the support of the well-intentioned, but, as many practitioners think, mistaken, friends who give their help. Possibly as the result of the interest excited, some movement to avoid overlapping and to check abuse may be set on foot.

Feb. 13th.

[1] THE LANCET, Jan. 27th, p. 271.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Epidemic of Influenza in Edinburgh.

DURING the month of January 41 deaths were registered in Edinburgh as due to influenza and its various complications. The deaths occurred in persons over 60 years of age, and the fatal cases appeared to have been almost entirely confined to the districts of Morningside and the Grange. In 1892, when there was a very severe epidemic of influenza, 45 deaths were recorded from the disease. In no year since 1892 has the mortality from this cause been so high as in the present year. The poor parts of the city have in this epidemic shown a remarkable freedom from the disease.

The Notification of Infectious Diseases in Edinburgh.

During the first half of the year 1899 the fees due to medical practitioners in Edinburgh for the notification of cases of infectious disease amounted to £520 and in the latter half of the year to £134 15*s.* During 1898 £353 5*s.* was paid for the first six months and £542 7*s.* 6*d.* for the latter half of the year.

Medical Officer of Health for the County of Sutherland.

Dr. Patrick Murison (Dundee) has been appointed medical officer of health of the county of Sutherland. Dr. Murison is a graduate of Edinburgh University and has been in practise in Dundee for the last ten years. He is at present a magistrate of that city.

The Scheme for a Scottish Hospital in South Africa.

A meeting was held on Feb. 9th in Edinburgh City Chambers to consider the scheme for the establishment of a Scottish hospital in South Africa. Lord Provost Mitchell Thomson presided. The meeting was well attended, a considerable number of representative citizens being present. The Lord Provost explained that shortly after the original scheme of the War Office for the accommodation of wounded soldiers had been dropped he had been told privately by General Chapman that the War Office authorities would be very grateful if the people of Scotland would give them a hospital ship. He informed General Chapman that if the

Lord Provost of Glasgow would enter into the scheme he would be glad to take the matter up. The Lord Provost and citizens of Glasgow, however, did not approve of the ship scheme in view of the amount of expenditure, £50,000 or £60,000, which it would imply. It had then been indicated to him by the War Office authorities that a very acceptable gift would be a hospital of 100 beds placed on the lines of communication and capable of being moved from place to place. The minimum sum for the equipment of such a hospital was £12,000, and he was glad to say that he had already received in all £6220 1*s.* from friends to whom he had applied. The hospital would be used for the treatment of Englishmen, Irishmen, Welshmen, Scotsmen, and Colonials alike, but would be Scottish in other respects. The physicians and surgeons would be Scotsmen and the nurses would be from Scotland. An executive committee was then appointed on which the medical profession is represented by Sir William Turner, Professor Chiene, and Dr. Joseph Bell. At the close of the meeting Sir William Turner moved a vote of thanks to the Lord Provost.

Aberdeen Royal Infirmary.

During last year 2516 patients were treated in the hospital, being a decrease of 89 compared with the previous year; but the number of out-patients rose from 5692 to 6625—an increase of 933. The annual report refers to the various efforts made to improve the finances of the infirmary, which resulted in an increase in the ordinary income of £1088. Legacies also showed an increase of £67, and notwithstanding the increase in the expenditure owing to the greater scope of the operations, higher rate of interest, increased cost of stores, &c., the deficit on the year's work was reduced by £467. The shortcoming, £785, it is remarked, is still formidable, but everything points to a nearer approximation of income to the needs of the institution. The number of cases treated in the Convalescent Hospital at Cults was 261, and the directors propose to take into the hospital a certain number of soldiers returned from the war suffering from wounds or illness.

Royal Asylum, Aberdeen.

The annual report by the directors shows that 185 patients were dischaged in 1899, as compared with 140 in 1898, there being 130 recoveries in 1899 and only 114 in 1898, while there were 16 more deaths last year than in the year preceding. The daily average of patients in the institution has increased by 48·4. The overcrowding, however, was partly relieved by the completion and occupation last spring of the laundry and workroom block for female patients, and within a few months two new wings at the hospital block will be finished. Elmhill Cottage has meantime been made suitable for 25 female patients. The house of the medical superintendent has been enlarged at a cost of £450. The piggeries at the main asylum are to be removed to a site farther from the buildings. The new erections for the pigs will cost £500. The branch asylum at Daviot maintains its usefulness. For the year there is a surplus of income of £4175 2*s* over ordinary expenditure, £2000 of which is to be applied to the reserve for deterioration of buildings and furniture, and the balance in reduction of the cost of the extension and improvement scheme.

Feb. 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Successor to the Registrar-General for Ireland.

MUCH interest has, of course, been excited among the medical profession as to the appointment of a successor to the late Dr. Wrigley Grimshaw, Registrar-General for Ireland. The most absurd reports on the matter have appeared in the local papers and indeed elsewhere. Foremost amongst these wild statements was the announcement that Dr. J. W. Moore, President of the Royal College of Physicians of Ireland, senior physician to the Meath Hospital, and one of the best known physicians in Dublin, was a candidate. It would have been strange if a man of his position would accept such an onerous though dignified position for a salary reduced recently to £1000 a year. Dr. F. C. Martley, a graduate of Cambridge who is resident in Dublin, seems to be a likely candidate, for he has devoted much time to the study of medical statistics as his papers in the Transactions of the Royal Academy of Medicine of Ireland prove. The whole matter is, however, conjectural, and it is impossible even to say whether the precedent followed so recently in the case of the appointment of the new English Registrar-General may not be duplicated here by the choice of some layman.

Appointment of a Bacteriologist to the Local Government Board for Ireland.

A very important scientific appointment has just been announced. Professor E. J. McWeeney has been gazetted to the post of Bacteriologist to the Local Government Board for Ireland. This appointment means the establishment in Ireland of a scientific bacteriological department in connexion with the Local Government Board such as has existed in England for the last seven or eight years.

Royal University of Ireland.

The Senate of the Royal University of Ireland met on Feb. 8th and reappointed the various fellows, medical fellows, and examiners, there being very few changes of any importance. The following gentlemen were recommended to the Vice-Chancellor for nomination to the two commissions in the Royal Artillery placed at his disposal by the Secretary of State for War: (1) Mr. C. W. Nixon, (2) Mr. S. Perry, and in case either of these gentlemen fails to qualify, (3) H. J. Nolan-Ferrall.

Health of Belfast.

It was reported to the City Council on Feb. 7th that from Dec. 24th, 1899, until Jan. 20th, 1900. 69 deaths had been registered from zymotic diseases and 433 from chest diseases. The annual death-rate was 26·3. The cases of infectious diseases (scarlet fever, typhoid fever, and diphtheria) show a considerable diminution, and are generally becoming less numerous. The health of Belfast contrasts very favourably with that of most of the large towns of Ireland, and the death-rate (26·3) is very much lower than the average of the 23 principal towns therein (33·9). Owing to the epidemic of influenza the deaths from that disease are more numerous than in the corresponding month of last year.

Belfast and District Lunatic Asylum.

At the monthly meeting of the governors of the Belfast and District Lunatic Asylum, held on Feb. 12th a report was read from the Government inspector (Dr. G. P. O'Farrell) in which he stated that notwithstanding the fact that 185 patients had been transferred to the new County Antrim Asylum, there was no corresponding diminution in Belfast Asylum, so great has been the influx of patients. Of the 902 patients on the register 241 were chargeable to the county of Antrim and 661 to the city of Belfast. The plans for the new Purdysburn Asylum had been referred for report to Mr. Hine, consulting architect to the English Lunacy Commissioners. The joint finance and asylum sub-committee, after considering this report, recommended *inter alia* that the asylum should comprise two separate buildings for the different classes of patients—one a reception hospital for mental diseases and the other the asylum for chronic cases, and that such reception hospital need not provide for more than 150 patients. Dr. O'Farrell in his report congratulated the board of governors on the marked progress which, apart from its structural defects and overcrowding, the asylum continued to make.

The Battle of the Clubs at Cork.

In these notes I have pointed out more than once that the local press is hostile to the contention of the local profession to an extent that outsiders could hardly realise and one that is not at all justified by the real state of affairs. It is therefore very satisfactory to be able to chronicle that the *Cork Evening Special* not only publishes *in extenso* the very able report of THE LANCET Special Commissioner, but devotes a leading article to the subject which is distinctly sympathetic in its tone. The *Cork Evening Special* heads its article, "The Doctor and his Fee." Alluding to the report of your Commissioner it says:—"We transfer the article to our columns to-day for two reasons. One is that the *résumé* appears to be an impartial version of the entire dispute, though written, of course, from the professional standpoint. The other is that the history of the affair is brought up to date, and therefore covers a period with the incidents of which the general public are not acquainted. As regards what is left of the dispute we will not enter into a discussion

of the merits of the case. Now that feeling has cooled down, so to speak, it hardly seems worth while to keep up the little friction that remains any longer. If the publication of THE LANCET article in our columns, where it will come under the notice of the general public, will help to bring about a complete restoration of peace it will serve a useful purpose."

Feb. 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Dyspepsia by Natural Gastric Juice.

AN important discussion has been occupying the attention of the Therapeutical and the Hospitals Medical Society for several sittings, the subject being a new method of treatment introduced by Dr. Frémont of Vichy. In his first paper on the subject he cited the case of three patients reduced to the last stage of cachexia who were saved by the administration of from 100 to 150 grammes of gastric juice given in divided doses of 25 grammes mixed with 75 grammes of cold milk, beer, or bouillon. If hot milk were used one single indigestible clot formed, but if the milk were cold numerous small clots formed which were easy of digestion. With beer as a vehicle an agreeable liquid with a slightly acid taste was obtained. If bouillon were used it should be cold, since the ferment was destroyed by hot bouillon. The duration of the treatment had to be regulated by the progress of the general health. The end to be sought was the gradual withdrawal of the gastric juice until the patient arrived at a stage at which he could do without it altogether. The treatment is contra-indicated in cases of hyper-secretion or cancer of the stomach. The undeniably good results obtained by this treatment cannot be explained away as being due merely to suggestion, for upon patients learning the nature of the fluid which they are taking they exhibit disgust and the good effects of the treatment become less apparent. Dr. Frémont has therefore taken to calling the gastric juice *gasterine*. The treatment is unhappily not within the reach of all purses, for in order to provide the large doses necessary a regular pack of small dogs with gastric fistulæ has to be kept so as to provide the necessary amount of gastric juice. This difficulty was specially dwelt upon in the discussions on the paper. Nearly everyone, however, and especially those physicians most experienced in the treatment of dyspepsia such as Albert Robin, Mathieu, Huchard, Bardet, Linossier, and Legendre, recognise that the treatment adopted up to now of giving hydrochloric acid and pepsine has only given illusory results owing mainly to the far too small doses given. M. Linossier remarked that patients suffering from a deficiency of gastric juice might show a deficiency of acid to a degree of as much as 20 grammes below the normal. The strength of the average dose prescribed is four grammes to the litre, a strength very much below that of normal gastric juice. The same holds good with pepsin. The daily secretion of this by the stomach corresponds to 325 grammes and the amount generally given as a drug rarely amounts to more than from a half to one gramme. M. Bardet considered that pepsins much more powerful than those which are ordinarily employed should be used. For instance, the ordinary pepsins work out at 10, 20, or 50 degrees at most—i.e., one gramme of pepsin in an acid medium will digest at a temperature of 38° C. 10, 20, or 50 grammes of fibrin in 12 hours. Few people, however, know that pepsins can be obtained which work out at 300 degrees. After a pharmacological discussion M. Vigier considered that too much was made of the retarding action of alcohol upon pepsin and argued that it might often be given in the middle of a meal with or without the addition of an antiseptic such as benzo-naphthol. M. Catillon reminded the meeting that the strength of a pepsin was estimated by digestion *in vitro*, and that a pepsin which digested 20 grammes of fibrin would also liquefy 200 grammes. Liquefaction is enough for gastric digestion, as it enables the food to pass the pylorus and begin to be acted upon by the pancreatic juice. In all, 13 cases of this treatment were reported as occurring in the practice of M. Legendre, M. Launois, and M. Barth. One patient under the care of M. Launois took every day half a litre of gastric juice. M. Linossier pointed out that this represented from seven to eight grammes of pharmacopœial hydrochloric acid and 25 or 50 grammes of *pepsina amylacea*. Under these circumstances he thought that albuminous fluids with the proper proportions of acid and pepsin would give the same results as gastric juice. Professor Hayem remarked that the gastric juice obtained from dogs by Dr. Frémont differed considerably from normal gastric juice. It was hyper-acid and the acidity was due to free hydrochloric acid. It was, therefore, according to Professor Hayem, merely a rather strong solution of hydrochloric acid. In the preliminary operation Dr. Frémont divides all the branches of the pneumogastric nerve supplying the stomach, which has the result of rendering the gastric juice free from pepsine. It is a difficult operation and many animals die. Professor Hayem has tried this gastric juice treatment in the cases of a certain number of patients who were apparently none the worse. He concludes, therefore, that Dr. Frémont had given himself a great deal of trouble for very little result.

Obituary.

The death is announced, at the age of 53 years, of Dr. Gombault, physician to the hospitals. The death is also announced, at the age of 90 years, of Professor Tourdes, honorary dean of the Faculty of Medicine at Nancy. He was especially noted for his work in forensic medicine.

Notes on News.

The election of a member of the Academy of Medicine to fill the place in the section of obstetrics vacant by the death of Dr. Charpentier, which occurred last year, has resulted in the election of Dr. Champetier de Ribes, obstetric physician to the Hôtel Dieu, by 34 votes, as against 33 given to Dr. Doléris, obstetric physician to the Boucicault Hospital.

Feb. 13th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Professor Krönlein on Cancer of the Rectum.

ON Jan. 31st Professor Krönlein of the Zürich Surgical Clinique delivered an instructive lecture to the Clinical Society of Zürich. He first showed two patients, aged 26 and 31 years respectively, who had been operated upon successfully for cancer of the stomach. He wished to lay especial stress on the fact that gastric trouble in young subjects did not exclude the possibility of the existence of a cancerous growth. He then spoke on cancer of the rectum, basing his remarks on an experience of 19 years, pleading for early diagnosis and contradicting a pessimism which still pervades the profession with regard to operative results. In the canton of Zürich, with a population of 345,000, the average annual number of deaths is 6154, 4043 of which refer to people over 25 years of age. Of this latter number 10·9 per cent., or 442 per year, are due to cancer. Whereas cancer of the stomach averages 49·3 per cent. of all cancers, the cancers of the breast and those of the intestinal tract number only 4·6 and 4·7 per cent. respectively. Out of 22,760 hospital cases under Professor Krönlein's care from 1881 to 1899 there were 1305 cases of cancer, 101 of which referred to cancer of the rectum. Add to these nine cases from private practice and the number of 110 is obtained on which he bases his deductions. The age varied from 26 to 78 years, the number of males being in excess of those of females as 17 to 10. Hæmorrhoids could not be considered as a determining etiological factor, but the number of cases from tuberculous families was considerable. Notwithstanding the ease of diagnosis by proper digital exploration many cases came too late for operation, so that only 63 cases were subjected to total extirpation. The death-rate was 11 per cent., three patients dying from peritonitis, one from delirium tremens, one (aged 78 years) from marasmus, and two from cancer of the liver. Professor Krönlein greatly objects to what he terms the usual falsifying of the rate of mortality by excluding hopeless cases. He wishes the number simply to be stated that leave the hospital, 56 in this instance out of the 63. The death-rates of other operators were: Rose, 53 per cent.; Kocher, 28·5 per cent.; and Kraske, 18·7 per cent. The modern school of surgery has death-rates varying between 9 and 12 per cent. All thep atients operated upon were visited afterwards and in 72 per cent. of the cases the cancer recurred *in loco*; however, life was prolonged in some cases from three

to eight years, which contrasts favourably with the average life of one and a half years in cases that go without operation. Ten cases had remained free from disease for from three and a half to 12 years. The functional results depend on the extent of the cancer and the operation, and were good in 45 per cent. of the cases, indifferent (partial insufficiency) in 40 per cent., and bad (total insufficiency) in 15 per cent. of the cases that underwent operation.

Roentgen Rays and Renal Calculi.

Dr. E. Tschudy of Zürich reports an interesting case of nephrolithiasis. The case occurred in a woman, aged 30 years, who had suffered for one year from pyelitis which, as cystoscopic examination proved, affected the right kidney. Nephrotomy was performed in March, 1898; the renal wound was closed by deep sutures after removal of a renal calculus. The patient was dismissed relieved in May, 1898. Recurrent symptoms took the patient to Wildungen in the summer and autumn of 1898, and examination in June, 1899, proved that the urine of the right kidney was normal, but that the left kidney was affected by pyelitis. After several attempts Mr. Wuest of Aarau succeeded in producing a Roentgen ray photograph demonstrating the presence of a renal calculus. Nephrotomy was then performed on the left side on June 27th with success and the patient was dismissed on August 9th. She feels well and has no renal symptoms; but microscopic examination of the urine still reveals an irritative process of the kidney. Roentgen rays promise to aid the surgeon to an early diagnosis in cases of renal calculi, which are very rare in Switzerland.

Zürich, Feb. 8th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Small-pox.

UPPER Italy, Central Italy, and Southern Italy are all of them visited by small-pox—the numerous cases registered at Acqui in Piedmont having been followed by others at Comacchio in the Ferrarese, at Florence, and at Gaeta. The majority of these are of the confluent kind, or, in Italian parlance, "vaiuolo nero" (black small-pox); but as to Florence it is right to say that they have been, and still are, "benignant" or non-confluent. The Florentine prefect writes: "In this province, out of five cases of 'benignant' small-pox one has been followed by death due to intercurrent pneumonia. It frequently happens in such cases that small cutaneous hæmorrhages appear which have no specially grave significance, but which, by the lay public, are easily confounded with 'vaiuolo nero.' All the types of small-pox have one origin and one only—to wit, an infective origin—and the manifestation of benignant small-pox or of 'black' (confluent) small-pox stands in essential relation with the practice or non-practice of vaccination and revaccination, and with the interval, shorter or longer, that has intervened from the last inoculation." It is from France that the disease has been introduced and, as I have said, stringent measures are being enforced at the frontier to check its further importation. At Florence, moreover, every effort is put forth to isolate the disease—a lazaretto having been specially organised *ad hoc*.

Italy and the Wounded from South Africa.

Not only in the lake country, not only on the Riviera Ponente and Levante, are hotel keepers putting their houses at the disposal of wounded or convalescent officers from South Africa, but further south the same kindly hospitality is daily *en évidence*. I have mentioned the "Albergo delle Sirene" at Porto d'Anzio as having followed the initiative of the Alta Italia, and now I must add to the list the well-known Hotel Tramontana at Sorrento, the accommodation and advantages of site and climate of which have been liberally devoted by the landlord to the same beneficent purpose.

Sanitary Precautions at the French Frontier.

This has been a bad, almost a disastrous, season for the hotels and for all the interests that depend on the sojourn of visitors or "paying guests," and yet so alive is the Government to the danger of reinforcing the infective diseases now *en évidence* throughout Italy that it is adopting the most stringent measures which may still further exclude the outside world, comprising the "paying guests" aforesaid. This in the long run is the best, because it is the "honest policy," and Italy in future years will profit by the reputation she will have won for preferring the "salus populi" to immediate pecuniary gain. The following is the official ordinance issued by the Government for the protection of the Italian public against insanitary importations at the French frontier:—

Article 1st.—All persons proceeding from Marseilles and travelling "in carovana" (in companies) by land, on their arrival at the first railway station of the Italian Kingdom, will have to undergo a medical visit, and should the sanitary officer charged with its performance find it necessary they will have also to undergo the disinfection of their appurtenances whether of personal or common use.

Article 2nd.—Provision will further be made (*a*) for the sending of suspected cases, under due precautions, into the *locale* of isolation belonging to the commune in which the railway station is situated; (*b*) for the vaccination of all persons who do not present the obvious, recognisable marks of recent vaccination; and (*c*) for the diligent disinfection of the carriages in which the said cases have been travelling.

Illness of Dr. Baccelli.

The Minister of Public Instruction, whose convalescence from influenza I recently announced, has had a relapse, due, there is no doubt, to his imprudence in returning to the cares of office when he should still have kept within doors. These cares have been aggravated by the turmoil and insubordination now prevalent at the universities, chiefly Naples and Padua, causing animated "interpellations" in Parliament and involving his Excellency in vivacious controversy with such formidable antagonists as Professor Cardarelli and Professor D'Ancona. Remanded perforce to bed, he has had to delegate his parliamentary duties to Signor Manna, Under Secretary of State at the "Minerva," as the Education Office is called; and now I hear that this functionary, too, is ill and cannot appear—the "hidden Manna," as a Deputy with more *esprit* than reverence calls him. For the moment public instruction is, officially speaking, in "suspended animation," *àpropos* of which the following epigram has been going the round of both Houses, Upper and Lower:—

Aegrotus Baccellus ab est; quoque Manna laborat,
Morbo nostra malo tota Minerva perit.
(Baccelli's ill and Manna follows suit,
And so our whole Minerva plays them ute.)

Feb. 13th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Antirabic Institute.

A YEAR ago Dr. Tonin, who has made a special study in the institutes of Turin and Naples, opened an antirabic institute in Cairo. Until that time individuals bitten by mad animals had to proceed at their own or at the Government expense to Paris or Athens for treatment. Naturally it sometimes happened that this delay proved fatal, so the Italian Benevolent Society were delighted to place a room at Dr. Tonin's disposal. He has now issued a report of 10 months' work and has had 86 patients sent to him. Of these nine were bitten by animals proved to be not mad and there therefore remain 77 to be considered. Of these 62 were Egyptians, five Germans, five Italians, four Greeks, and one was a Frenchman. 10 were bitten by wolves, six by cats, one by a jackal, and one by a hydrophobic woman at the native hospital. The remaining 59 were bitten by dogs in the proportion of seven European dogs to 32 native pariahs. 24 of the cases were diagnosed as certain rabies by experiments on rabbits. In four other cases an absolute diagnosis was made in writing by the veterinary surgeon who diagnosed rabies in the living animal, and the remaining 49 were cases in which rabies was strongly suspected. All the patients who completed the routine treatment are now healthy and well, but seven of the 10 wolf bites developed hydrophobia during the antirabic inoculations and died at Kasr-el-Aini Hospital. All these unfortunately began their treatment more than 10 days after being bitten and they exemplified the usual circumstance that patients with wounds in the face or head were earliest affected. In two of the hydrophobic cases intravenous injections were tried without avail. Attention is thus drawn to the fact that rabies and hydrophobia certainly exist in Egypt. During

the year a Greek who was undergoing the antirabic treatment developed spurious hydrophobia and of course recovered.

Foot and Mouth Disease.

This disease appeared in Egypt in 1888 immediately after some cases had been detected among the imported cattle in the Alexandria quarantine pens. Since 1888 the disease never occurred again until July, 1899, when cattle-trade with Russia was re-established, the earliest cases being found in the Behara province near the port of Alexandria, where the foreign cattle were imported. Energetic measures stamped out the disease before the close of December, but during the five months more than 70 separate outbreaks were reported and 3000 head of cattle were isolated. It was found that animals placed out in the open air under slight shelter recovered quicker than those in stables, the microbes being apparently killed by exposure to sun. No cases were traced to human beings, though several children were known to have drunk unboiled milk from diseased cows.

The War.

South Africa seems now to be full of officers and men who have made their reputations in Egypt and the Soudan, and almost every week some friend is deserting us for the campaign. The officers of the Army Medical Corps have been so reduced in numbers that four civilians in Cairo are temporarily attached to the military establishment. They are Dr. F. C. Madden, Dr. Betts, Dr. Laing, and Dr. Beddoe. About 150 of the Camerons have volunteered to be inoculated against typhoid fever before they start in three weeks' time for the Cape and the work is now being carried out with Professor Wright's serum from Netley.

The Low Nile.

The steamers are all much delayed as they proceed upwards to Assuan, chiefly by sticking on known and unknown sand-banks. Professor Alexander Macalister tells me that the steamer on which he travelled grounded temporarily no less than 63 times. This is a record which is not likely to be surpassed. The Nile is considerably lower now than it was in the two bad years 1878 and 1889, and we can only hope that there may now be a welcome rainfall in the Southern provinces of the Soudan, which will cause the White Nile to rise. Unfortunately, we know from Uganda that the water level of the Victoria-Nyanza lake stood last October two feet below the normal, and that the height of the Upper Nile at Wadelai was four and a half feet below the average of previous years. Agricultural prospects must pass through a severe strain during the next few months, but there is no necessity for prophesying a famine or other horrors. The low Nile added to the impecunious Soudan blocks many useful reforms in the Sanitary Department. Let us hope this is only a temporary inconvenience.

Cairo, Feb. 3rd.

Obituary.

FRANCIS CHARLEWOOD TURNER, M.D. CANTAB., F.R.C.P. LOND.

FRANCIS CHARLEWOOD TURNER, whose death we announced last week, was the youngest son of Thomas Turner, treasurer of Guy's Hospital, and was born at Hampstead in 1843. He was educated at Clapham School when the Rev. Charles Pritchard was then head-master, and afterwards at Trinity College, Cambridge, of which he was a scholar. In 1864 he graduated as seventeenth wrangler and afterwards studied medicine at Cambridge and Guy's Hospital. In 1871 he became a Member of the Royal College of Surgeons of England and took the degree of M.D. Cantab. in 1874. In 1875 he became a Member of the Royal College of Physicians of London, being elected a Fellow in 1881. He was elected assistant physician to the London Hospital in 1876, coming from Guy's Hospital with the reputation of being a very diligent worker. In 1878 he succeeded the late James Adams as curator of the London Hospital Museum and in 1883 he was appointed pathologist in succession to Mr. Jeremiah McCarthy. He never held any lectureship at the school but was promoted to be full physician on the death of Dr. Sutton. He also held the posts of physician to the North-Eastern Hospital for Children and the London Orphan Asylum. He married a daughter of the late Bishop MacDougall of the Straits Settlements and his only surviving brother was consecrated Suffragan Bishop of Islington two years ago. In 1899 he was appointed Examiner in Medicine at Durham University, being made an Honorary M.D. of that foundation.

EDWARD JONES, M.D. ST. AND., M.R.C.S. ENG., J.P.

DR. EDWARD JONES died at his residence, Dolgelly, North Wales, on Feb. 5th, after a short illness. The deceased, who had an extensive practice, was medical officer of health of Dolgelly and medical officer for the Dolgelly district and workhouse. Dr. Jones was also a Justice of the Peace for the county of Merioneth and the first chairman of the Merioneth County Council. He took a great interest in politics and was chairman of the County Liberal Association. He was well known locally as one of the pioneers of secondary education in Wales and will be much missed, for he was extremely popular.

ABRAHAM HARRIS-BICKFORD, M.D. ST. AND., L.R.C.P. EDIN., M.R.C.S. ENG., L.S.A.

DR. HARRIS-BICKFORD died at his residence, Veor Villa Camborne, on Feb. 4th, in his sixty-fifth year. The deceased received his medical education at St. Thomas's Hospital, London, and received the qualifications of M.R.C.S. Eng. and L.S.A. in 1858; the year following he became L.R.C.P. and L.M. Edin., and in 1862 he was admitted to the M.D. of St. Andrews University. Dr. Harris-Bickford, who was one of the best-known medical men in Cornwall, had been in practice for many years in Camborne and was formerly surgeon to the Camborne Public Dispensary and West Cornwall Hospital. He contributed several articles to the medical and other scientific papers. He had suffered from diabetes for several years, but had attended to his professional duties until within a few days of his death. Great sympathy is felt for his widow and family. The funeral took place in Gwennap parish churchyard on Feb. 8th and was largely attended.

Medical News.

UNIVERSITY OF LONDON. — At examinations held in January the following candidates passed in the subjects indicated:—

INTERMEDIATE EXAMINATION IN MEDICINE.

Entire Examination.—First Division.—Kenneth Anderson, Guy's Hospital, and William Arthur Rees, Middlesex Hospital. *Second Division.*—John Acomb, Yorkshire College; Frederic Barker, Mason University College; Edward Augustine Bell, King's College; Dora Elizabeth Lidgett Bunting, London School of Medicine, Royal Free Hospital, and University College; William Wellesley Campbell, King's College; George Arthur Charter, Edinburgh School of Medicine; Reginald Anthony Eastmond, London Hospital; Mary Gertrude Edis, London School of Medicine and Royal Free Hospital; Joseph William Evans, University College, Cardiff; Douglas Gray, Charing Cross Hospital; Philip Anthony Mark Green, London Hospital; Gerald Stephen Hughes, Middlesex Hospital; Osburne Ievers, St. Mary's Hospital; Herbert Charlton Jonas, St. Thomas's Hospital; James Douglas Judson, Owens College; Frederick Samuel Langmead, St. Mary's Hospital; Robert Hammersley Lee, King's College; Jessie Augusta Lewin, London School of Medicine and Royal Free Hospital; Arthur Thomson Marshall, King's College; Charles Jerome A. N. Mercier, Charing Cross Hospital; Mary Eva H. Morris, London School of Medicine and Royal Free Hospital; William Sydney Page, St. Mary's Hospital; Albert Edward Pinneger, Middlesex Hospital; Francis Baldwin Pinneger, Charing Cross Hospital; Ernest George Pringle, St. Bartholomew's Hospital; Enid Marian Smith and Alice Taylor, London School of Medicine for Women; Harold Tipping and William Edward James Tuohy, Guy's Hospital; George Stafford Ward, London Hospital; Lucy Wellburn, London School of Medicine and Royal Free Hospital; and Herbert Victor Wenham, St. Bartholomew's Hospital.

Excluding Physiology.—First Division.—Edward Colston Williams, St. Bartholomew's Hospital and Birkbeck Institution. *Second Division.*—Walter Ball, University College, Liverpool, Anderson's College, and Westminster Hospital; Henry Edgar Barnes, St. Mary's Hospital; Alexander Cameron, Middlesex Hospital; Anne Fenton Cleaver, London School of Medicine and Royal Free Hospital; Philip Claude T. Davy, University College; Jeanette Rachel de Pass, London School of Medicine for Women; John William Fox, Sheffield Medical School and London Hospital; Alfred William Iredell and Herbert Stanley Jones, Guy's Hospital; John Jones, London Hospital; George Harvey Low, St. Bartholomew's Hospital; George Herbert Hind Manfield, Guy's Hospital; William

Wilson Nock, Mason University College; George Struan Robertson, Guy's Hospital; Edward Bertram Smith, St. Bartholomew's Hospital; William Bartholomew Vaile, London Hospital; and Robert James Waugh, St. Bartholomew's Hospital.

Physiology only.—First Division.—Ruth Balmer, London School of Medicine and Royal Free Hospital; Emily Maria Beverley, London School of Medicine for Women; Thomas Scarbrough Dudding, London Hospital; Letitia Nora Ede, Durham College of Medicine; John Parker Ellerington, University College; George Evans, Guy's Hospital; Charles Montague Heanley, St. George's Hospital; Lionel Francis Lovell-Keays, Middlesex Hospital; and Charles Burnage Penny, Ernest Frederick Reeve, David Herbert Trail, and Frank Cordeux Wetherell, Guy's Hospital. *Second Division.*—Sidney Marshall Banham, University College; Robert Macpherson Barron, Guy's Hospital; Oswald Joseph Stanley Damfan, St. George's Hospital; Robert Valentine Dolbey, London Hospital; John Edmund Francis, University College; Charles de Zouche Marshall, St. Thomas's Hospital; Harold Rundle Fitz-Nattle, University College; Arthur Wellesley Penrose, Guy's Hospital; Frederic Harold Pickin, Bristol Medical School; Cecil William Rowntree, Middlesex Hospital; Louis Charles Arthur Savatard, Owens College; John William Smyth Seccombe, St. George's Hospital; James Ernest Sutcliffe Smith, Owens College; and James Arthur Smyth, University College.

PRELIMINARY SCIENTIFIC EXAMINATION.

Entire Examination.—Second Division.—John Stanley Avery, Grammar School and Merchant Venturers' College, Bristol; William George Avis, Mason University College; Rachel Hicks Butler, Brighton Technical College; Ethel Craske, Kensington High School and Battersea Polytechnic; Delia Davies, University College, Aberystwith, and Alwyne Institute; Frederick William Higgs, St. George's Hospital and University Tutorial College; Harold Albert Kisch, City of London School and St. Thomas's Hospital; Frederick Champ McCombie, King's College; Sophia Seekings, private tutor and Gloucester Municipal Schools; Herbert Henry Warren, Mason University College; and Thomas Francis Wilson, Nottingham High School.

Chemistry and Experimental Physics.—†Arthur William Baker, Kingswood School and Chesterfield Science and Art School; †Edgar Henry Bennett-Bailey, Epsom College and Westminster Hospital; †Walter Francis Corfield, University College; †William Harold Arthur Elliott, Yorkshire College and private study; George Johnson Langley, Merchant Taylors' School; †George Lawrence, University College, Liverpool; †William Norman May, Reading College; †Robert Milne, London Hospital; †Basil Eustace Moss, St. Bartholomew's Hospital; †Helen Irene Moss, University Tutorial College; †Norman Bennett Powell, St. Bartholomew's Hospital; †Frank Douglas Roberts, London Hospital; †Joseph Ludvig Schilling, Yorkshire College; George Maxwell Simpson, University Tutorial College; †George Aulck Soltau, London Hospital; Edward John Sunnucks, University Tutorial College; William Sidney Sweet, University of Melbourne and University Tutorial College; †Alfred George Sworn, Epsom College; Bessie Weldon Symington, private tuition; John Ronald Rigden Trist, St. Bartholomew's Hospital; †Fred Newton Walsh, Birmingham School of Medicine; †Edward Denis Whittle, University College; †Lilian Ethel Wilson, Bedford College, London, Birkbeck and Alwyne Institutions, and Private tuition; †Andrew Rae Wright, Owens College, and †Samuel Zobel, University Tutorial College.

Biology.—Walter Chesters, University College, Cardiff; Edward Vincent Dunkley, St. Thomas's Hospital; Frederick Gooding, St. Bartholomew's Hospital; Michael Francis J. McDonald, St. Paul's School; Mabel Gwendoline Mordey, University College, Cardiff; †John Hobart Nixon, University Tutorial College and University College, Nottingham; Edgar Lionel Robert Norton, Guy's Hospital and University Tutorial College; Arthur Boniface O'Brien, Guy's Hospital; Enid Orange, University College and Alwyne Institute; †Thomas Pratt, University College, Bristol; William Percy Purdom, Guy's Hospital and University Tutorial College; Mona Dew Roberts, Bedford College, London; †Alfred Martin Roome, Guy's Hospital and University Tutorial; and Cariyon Colleges; †Alfred Geddes Treaidder, London Hospital; Frederick Thomas Turner, King's College; and Stuart William Jackson Twigg, University College, Sheffield.

† These candidates have now completed the examination.

The foregoing lists, published for the convenience of candidates, are provisional only and are not final until the reports of the examiners shall have been confirmed by the Senate.]

APOTHECARIES' HALL OF IRELAND.—The following candidates have passed the under-mentioned professional examinations:—

Second Professional Examination.—Richard Tracy (Physiology and Anatomy), and H. W. Mason (Anatomy).

Third Professional Examination.—L. J. Farrell (Pathology and Hygiene and Forensic Medicine), S. Adye Curran (Pathology and Materia Medica), J. D'Arcy Hamilton (Pathology and Forensic Medicine), W. P. Harding (Medicine and Surgery), F. A. Bass (Medicine and Midwifery), A. J. Barnes (Medicine, Midwifery, and Ophthalmic Surgery), and G. M. Sharpe (Medicine, Surgery, Midwifery, and Ophthalmology).

The following gentlemen have completed the final examination and have been admitted Licentiates of the Apothecaries' Hall and are now qualified to practise Medicine, Surgery, and Midwifery, viz.:—Frederick Ellis Bass, William Patrick Harding, and George Metcalfe Sharpe.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen have passed the examination for the Diploma in Public Health:—

Honours (in order of merit).—Louis G. Godinho, L.M. & S. Bombay; and J. W. H. Jessett, M.D. Dub.

Pass.—Nicholas Cullinan, L.R.C.P. & S. Edin., L.F.P.S. Glasg.

ROYAL VICTORIA CONVALESCENT HOME, BRISTOL.—At a meeting of the committee held on Feb. 7th the Society of Merchant Venturers of Bristol made an application for 12 beds to be reserved for convalescent sick or wounded soldiers returning from South Africa. The expenses in connexion with these beds will be defrayed by the society.

WEST OF ENGLAND AND SOUTH WALES BRANCH OF THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held at Trowbridge on Feb. 8th under the presidency of Dr. Symons. Mr. Tubb Thomas, medical officer of health of Wiltshire, read a paper on the Inter-notification of Infectious Diseases and urged that a general register for infectious diseases throughout the country should be provided.

HEALTH OF BRISTOL.—Dr. D. S. Davies reports that 9345 births and 5840 deaths were registered during 1899. The births corresponded to a rate of 29·2 per 1000 persons living, as compared with 28·7 in 1898, and the death-rate was 18·2 per 1000, against 17·2 per 1000 in 1898. The deaths of infants last year numbered 1473 and were in the proportion of 158 per 1000 births registered, against 164 per 1000 in 1898. The zymotic death-rate was 1·9 per 1000 living, against 2·7 in the previous year. The deaths due to the zymotic diseases were 595, of which 41 were due to measles, 13 to scarlet fever, 33 to diphtheria, 119 to whooping-cough, and 355 to diarrhœa.

SOUTH DEVON AND EAST CORNWALL HOSPITAL.—The sixtieth annual meeting of this institution was held on Feb. 6th under the presidency of Sir Massey Lopes. The medical report stated that 1244 in-patients had been admitted during 1899, being a decrease of 69 as compared with the previous year. 2650 out-patients were attended, an increase of 314 as compared with 1898. 253 patients were sent to the Pearn Convalescent Home. The financial statement showed that the total expenditure amounted to £6821, and there was an unfavourable balance of £802, but the balance from the bazaar held in 1898 enabled the committee to clear this deficit.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A medical students' guide for the coming session has just been issued by the College. The preliminary examinations are held in March and September. The Conjoint Diploma in State Medicine: held on the first Tuesdays in February, May, and November; fee £10 10*s*. The Fellowship Examination: held on the third Mondays in February, May, and November; fee, £26 5*s*. The Licence in Surgery for Registered Practitioners: held on the first Mondays in February, May, and November; fee £26 5*s*. The Licence in Dentistry: held on the second Mondays in February, May, and November; fees, primary £10 10*s*.; final £10 10*s*. Entries for all examinations must be made 14 days previously. The guide can be had free on written application to the College, Stephen's-green, Dublin.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of subscribers was held on Feb. 13th at the residence of Sir William Broadbent, Bart., who occupied the chair. The honorary secretary for finance presented the report of the committee and the treasurer's financial statement for the past year. In the grant department subscriptions amounting to £892 1*s*. 9*d*. and donations amounting to £399 10*s*. 9*d*. had been received. £1539 10*s*. had been distributed in sums varying from £5 to £20 to 161 out of 216 applicants. In the annuity department the interest on invested capital had yielded £2334 1*s*. 1*d*., of which £2203 5*s*. 10*d*. had been paid to recipients of the age of 60 years and upwards, whilst the capital had been increased by legacies amounting to £1457 6*s*. 9*d*. Ten vacancies caused by death had been filled and one new annuity created, bringing the number of annuitants up to 109. The accounts of the Fund had, as usual, been audited by a chartered accountant, who drew special attention to the extremely small working expenses, which for the past as for many years had been less than 5 per cent. The death of Sir James Paget, Bart., for many years the honoured President of the Fund, was sympathetically referred to, and Sir William Broadbent was unanimously elected to the vacant office. Dr. Samuel West being appointed treasurer. Special attention was drawn to the serious decrease in subscriptions and donations which had occurred during the year and a hope was expressed that fresh efforts would be made by all interested in the charity to

remedy the deficiency. The meeting was concluded by a vote of thanks to the chairman and by one to the medical press for the support always given to the Fund.

MEDICAL MAGISTRATE. — Mr. E. S. Robson, L.R.C.P. Edin., M.R.C.S. Eng., has been appointed a Justice of the Peace for the city of Durham.

COCKLES AND TYPHOID FEVER.—Dr. A. W. Kempe, the medical officer of health of Exmouth, in his annual report for 1899, states that the birth-rate was 19·8 per 1000 and the death-rate 11·6 per 1000. 59 cases of typhoid fever had occurred, 12 of which were traced to the eating of raw cockles.

FREEMASONRY.—*Rahere Lodge, No. 2546.*—A meeting of the Rahere Lodge No. 2546 was held at Frascati's Restaurant on Tuesday evening, Feb. 13th, Wor. Bro. J. R. Reece, M.D., the W.M., being in the chair. Bro. James Calvert, M.D., of the Alliance Lodge No. 1827 and Warden of the College, St. Bartholomew's Hospital, was elected a Joining Member, and Bro. E. H. Thompson was passed to the second degree in Freemasonry. Wor. Bro. E. C. Cripps, P.P.G.D.C., Gloucester, delivered in a most impressive manner the second section of the second lecture. The brethren and their guests afterwards dined together.

DANGERS OF BACTERIOLOGICAL RESEARCH.—The assistant in the Cracow Bacteriological Laboratory, Dr. Kostanecki, died last month from what was supposed to be plague contracted from plague bacilli on which he had been working. He was ill for only two days and so the diagnosis was uncertain. The post-mortem examination of the body and bacteriological examination of the sputum have failed to give any evidence of plague and all that can be said is that death was due to some very grave infectious disease.—The St. Petersburg Institute for Experimental Medicine have, in view of the dangerous nature of bacteriological research dealing with such diseases as plague, arranged to utilise an island fortress at Cronstadt as a laboratory. This is being fitted up with all necessary appliances, including a steam-engine and electric motors and lights. There is stabling for a dozen horses, quarters for the staff, and a hospital in case any of them should unfortunately contract disease.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on Feb. 6th, Dr. James Andrew, the President, being in the chair.—The President referred in sympathetic terms to the loss which the College had sustained through the death of Sir Thomas Grainger Stewart, a past President of the College, one of its most distinguished Fellows, and the accomplished Professor of Medicine in the University of Edinburgh. He also referred to the untimely death of Dr. George Elder, a junior Fellow, who had given promise of a great future.—Dr. Richard Carter of Bath was admitted by ballot to the Fellowship.—On a ballot the following candidates were admitted to the Membership of the College after examination—viz., Dr. Thomas Wilson Smith, Bath; Dr. William Thomas Ritchie, Edinburgh; and Dr. John William Simpson, Edinburgh.—The Registrar reported that since the last quarterly meeting 46 persons had obtained the Licence of the College by examination.—The Curator submitted his report for the past year regarding the research and reporting work undertaken in the laboratory during the year and the expenditure incurred. The report showed that 26 workers had been engaged in research, 1366 specimens had been reported on, and the total expenditure had amounted to £801 5*s.* 8*d.* The report was adopted by the College.—Dr. James Taylor Grant (Edinburgh) was after examination recognised by the College as a lecturer on bacteriology and the President conferred on him the certificate of qualification.—Intimation was made that no essay had been submitted for the Parkin Prize in the gift of the College. It was agreed to announce it as open for competition during the present year.—A letter was read from the President of the Faculty of Physicians and Surgeons of Glasgow thanking the College for their address of congratulation on the tercentenary of the Faculty. On the recommendation of the Prize Committee the Freeland Barbour Fellowship in the gift of the College was conferred on Mr. Walter William Chipman, M.B., C.M. (Edinburgh).

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Amendment of Company Law.

THE Bill of the Government for the amendment of the Company Acts is in the same form as the measure on this subject which passed through the House of Lords last year and therefore contains the provisions with reference to medical practitioners, dentists, and pharmacists. The Bill is now before the House of Commons.

Physical Drill in Schools.

Sir JAMES FERGUSSON intends to take an early opportunity in the House of Commons of calling attention to the importance of instituting physical military drill for boys in all state-aided and rate-aided schools.

Lunacy Bill.

The Bill to amend the Lunacy Acts introduced by the Lord Chancellor and read a second time in the House of Lords on Feb. 12th is a measure consisting of 31 clauses and two schedules. It deals with such subjects as urgency orders, judicial authorities, and reception orders, the removal of lunatics to workhouses, disqualifications for signing medical certificates, visits to licensed houses, powers of dealing with the property of lunatics, the reception of boarders, the management of hospitals and their branch establishments, compensation to asylum officers for injury sustained in the discharge of their duties, the temporary care of incipient lunatics, and the jurisdiction of Masters in Lunacy. With regard to urgency orders the provisions are that the currency of the order shall be reduced from seven days to four, and that every order shall be accompanied by a statement, to be made and signed by the person who signs the order and by the medical practitioner who signs the medical certificate on which the order is founded that it is necessary for the safety and proper treatment of the alleged lunatic or for the safety of others that he should be forthwith placed under care and treatment, and showing fully and specifically the reasons why an order of this description is required. The disqualifications for signing medical certificates in support of a petition for a reception order are extended considerably. They are made to apply among others to persons in the employment of the licensee.

Water-supply Bill.

There has been introduced into the House of Commons by certain private Members a Bill the main object of which is to secure the supply of pure and wholesome water for the public use. It seeks to attain this object by an elaborate set of provisions. In the first place it provides that if any water company supplies for domestic use impure or unwholesome water they shall be liable to a penalty not exceeding £50 for every day during which such supply continues. In order to test the quality of the water power of inspection and of making certain orders is given to the Local Government Board, and the officers of sanitary authorities of their own initiative or at the request of consumers are entitled to inspect works and take samples of the water for analysis. Further than this, it is proposed that every water company shall once a month cause to be made an analysis of the water supplied by them, the record of this analysis being put at the service of the sanitary authority of the district as well as of any consumer who may care to visit the offices of the company. Another clause of the Bill lays down that, subject to a penalty of £100, every water company shall effectually filter all water supplied by them for domestic use before it passes into pipes for distribution. This obligation is, however, made subject to remission in whole or in part by the Local Government Board after inquiry. Further, the Bill says that it shall not be lawful for a water company to open or use any new source of supply not specially authorised by Parliament without the licence of the Local Government Board, and it lays down provisions for protection against pollution.

HOUSE OF COMMONS.

THURSDAY, FEB. 8TH.

The Hospitals in Cape Colony and Natal.

Dr. FARQUHARSON asked the Under Secretary of State for War whether his attention had been called to statements as to the defects in the military hospitals in Cape Colony and Natal; and whether he had any information which he could communicate to the House with a view of relieving the anxiety of those who have relatives or friends among the sick and wounded in South Africa.—Mr. WYNDHAM: In reply I will read selections from two telegrams on the matter from Lord Roberts and Sir Redvers Buller. Lord Roberts, telegraphing from Cape Town, Jan. 22nd, 1900, 7.45 P.M., says:—"There is no real foundation for report reflecting on hospitals at the Cape. I am perfectly satisfied with all arrangements for reception and treatment of wounded. The quality of cooking was indifferent for first week; nothing more can be complained of, and this was rectified as soon as possible. . . ." Sir Redvers Buller telegraphed to Lord Roberts, Jan. 30th, 1900, 10.50 A.M.:—"One of the Natal papers is attacking the management of the military hospitals, and as some of the false and ridiculous statements may cause anxiety at home I think it right to say that Mr. Treves assures me there is no possible ground for complaint and that I may rest satisfied that all the medical arrangements are completely satisfactory to him. I pressed him if he could suggest improvement, and he

said he could not. . . . I have given the matter every consideration, and can only express my admiration of the arrangements made by Colonel Gallwey and the Royal Army Medical Corps, and Mr. Treves assures me that he entirely agrees with me."

FRIDAY, FEB. 9TH.

The Position of Canadian Surgeons at the Front.

General LAURIE asked the Under Secretary of State for War, as it appeared from the published telegram, No. 61, of the Secretary of State for the Colonies to the Governor-General of Canada, dated Oct. 23rd, 1899, that the Secretary of State for War could only accept Canadian military medical officers and trained female nurses for service with the Canadian contingent, as British troops could be legally only attended by surgeons registered in the United Kingdom and nurses belonging to the Army Reserve, and as Canadian troops accompanied by Canadian military surgeons and nurses were now serving at the front side by side with their comrades of the British regular service whether he would take steps to remove the legal prohibition which prevented these Canadian and other colonial military surgeons from rendering medical assistance to their British comrades.—Mr. WYNDHAM: The Medical Act of 1858 prohibits the appointment as army surgeon of a practitioner not registered in the United Kingdom, but it does not prevent a non-registered surgeon from rendering assistance under the orders of the medical staff. The general question of reciprocity with the colonies as regards medical qualifications is too broad a question for the War Office to deal with.

Invalid Soldiers from South Africa.

Mr. SWIFT MACNEILL addressed to the Under Secretary of State for War a series of questions with reference to the treatment of certain invalid soldiers who arrived in London from South Africa on board the *Sumatra*.—Mr. WYNDHAM replied: The *Sumatra* arrived on Dec. 6th at 12.30 P.M., being one and a half hours before the time at which the steamship company had notified that she was to be expected. The ambulances arrived at 2 P.M. and the invalids, who had remained on board, were landed at 3 P.M. and placed immediately in a shed close by on the wharf. They all had great-coats on and were never left in the rain. They were then removed without unnecessary delay in ambulances to Herbert Hospital, Woolwich. There were on board six cases of insanity, three cases of dysentery, one of tubercle, and one of phthisis, the remainder being of ordinary character.

MONDAY, FEB. 12TH.

Clothing for the Troops.

General RUSSELL asked the Under Secretary of State for War whether, in view of the prevalence of enteric fever among our troops now serving in South Africa, flannel belts were issued to the men as a part of their necessary equipment as was the case in India.—Mr. POWELL WILLIAMS (for the Under Secretary) replied: Two flannel or worsted belts are issued to every man going to South Africa and a reserve supply is also being sent out.—General RUSSELL asked the Under Secretary of State for War whether the attention of the Government had been called to the extreme cold which prevailed, more especially at night, on the high plateaus of South Africa during the winter months commencing about April; and whether steps would be taken to ensure large reserves of warm clothing being accumulated for issue to the troops when they were likely to require it.—Mr. POWELL WILLIAMS (for the Under Secretary) replied: Yes. Considerable reserves of warm clothing have already been sent out and more will be sent out as supplies come in from the trade.

Remuneration of the Consulting Surgeons.

Mr. POWELL WILLIAMS, in reply to Mr. WILLIAM REDMOND, said that the payment to the consulting surgeons at the seat of war was at the rate of £5000 per annum with free passage to South Africa and back.

The Staff at Netley Hospital.

Captain NORTON asked the Under Secretary of State for War whether it had been brought to his notice that owing to the insufficient number of non-commissioned officers and men engaged in hospital duties at the Royal Victoria Hospital, Netley, these non-commissioned officers and men were frequently on duty for 36 hours at a time and also that no regular night duty men, kept for night duty only, were employed there; and whether he would take the necessary steps to remedy this state of affairs.—Mr. POWELL WILLIAMS, replying for the Under Secretary, said: The establishment of the Royal Army Medical Corps at Netley has been so depleted by the demands from South Africa that the men have not of late had the usual number of nights in bed, but additional men have been ordered from Aldershot and a reinforcement is shortly expected from the Volunteer Medical Staff Corps, which will allow the men to have their proper rest. It is not customary to have a separate staff for night duty. The staff of female nurses is ample, and further assistance of that nature has been declined at present by the lady superintendent.

TUESDAY, FEB. 13TH.

Deaths from Disease at the War.

At the sitting of the House there was a question in the name of Sir Walter Foster asking the Under Secretary of State for War whether he could state approximately the number of deaths from disease among the forces in South Africa and if possible the number of those who have succumbed to enteric fever. Sir Walter Foster was not present to put the question, but when it was reached Mr. WYNDHAM announced that he did not possess the information desired.

WEDNESDAY, FEB. 14TH.

Dispensary Medical Officers and Nurses in Ireland.

In the course of a second reading debate on a measure to set up a Board of Control possessing certain elements of popular representation over the Irish Local Government Board, the question of the salaries and vacation allowances of dispensary medical officers in Ireland was raised. Several Nationalist Members gave expression to the complaint of certain boards of guardians that in this connexion the Local Government Board has involved them in unnecessary and therefore unjustifiable expense. The ATTORNEY-GENERAL for IRELAND defended the action of the Board. He described the dispensary doctors as wretched overworked slaves and said the Board was quite prepared to stand censure for defending them against what was almost heartless and wanton parsimony. The refusal of the Board to sanction the employment of nuns as trained nurses was also raised during the debate. In this connexion the ATTORNEY-GENERAL for IRELAND pointed out that the Local Government Act only gives power to remunerate trained nurses—that is to say, nurses who have obtained a certificate after due training; and while he had nothing but words of respect and admiration for nuns he could not regard them as trained nurses within the meaning of the Act. At the close of the debate the Bill was thrown out by a large majority.

PRESERVATIVES AND COLOURING MATTERS IN FOOD.

EVIDENCE BEFORE THE DEPARTMENTAL COMMITTEE.

FRIDAY, FEB. 9TH.

The Committee held another meeting to-day when Sir Herbert Maxwell again presided.

Dr. JOHN ATTFIELD, for 34 years Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain and editor of the British Pharmacopœia, said, in reply to the chairman, that his chief qualification for appearing before the Committee was that for many years he had been what was called a dyspeptic and of course in his endeavour to relieve himself of his trouble he had brought to bear his knowledge of chemistry. He had consulted the late Sir William Savory who was the first to advise him to use antiseptics to prevent that unnatural decomposition of food in the stomach which gave rise to gas and therefore to distension and trouble and discomfort and even pain. Then the late Dr. Habershon, a great authority on dyspepsia, also recommended him to use antiseptics, and so also did Sir Thomas Lauder Brunton and the late Sir Richard Quain. It would therefore be seen that he had acted under proper advice. The antiseptics he had used under this advice had been carbolic acid, sulphurous acid taken in the form of sodium hyposulphite, creosote, and boric acid. The quantity of boric acid had been from 10 to 15 grains three times daily. By way of pure experiment he had taken much larger quantities, but this quantity had been found sufficient to prevent the abnormal decomposition of food in the stomach to which he had alluded. He had abundance of experimental evidence to show that food had commonly remained in his stomach, not for the ordinary period of four hours which separated meals, but for eight hours and much longer, and in the case of some uncooked fibrous foods which could easily be traced by the eye when the contents of the stomach were exposed—such, for instance, as the skins of black grapes—they remained for a week or 10 days in small quantities, and, of course, hidden up in the coats of the stomach or, more likely, getting to the bottom of the stomach. According to his observation it was chiefly vegetable fibres which took so long to digest and were liable to ferment and it was this fermentation in the stomach which the boric acid in the doses he had mentioned prevented. He had generally found 10 grains three times a day sufficient to prevent the decomposition, although he had taken as much as 60 or 70 grains in one day for experimental purposes. Since the question of food preservatives had been taken up he had been anxious to learn how much one could stand; he had taken a large quantity like this and he never could detect any influence whatever. He certainly had suffered no inconvenience. His present practice was to pepper boric acid over his green vegetable food with a caster. Perhaps he ought to explain that he had never found any discomfort from starchy food such as bread or potatoes, but rather from green vegetable food, which his stomach seemed to have great difficulty in breaking down. Some 10 years ago he had adopted another plan altogether. At the end of four or five hours, when it might be assumed that food ought to have digested and any food then remaining was liable to decomposition, he had by means of a tube run off the entire contents of the stomach. He thus had an opportunity of examining the residual food, which presumably was not going to do him good but rather harm, and being a chemist and microscopist and accustomed to observe accurately he could see what length of time was necessary for various kinds of food to digest, which kinds would digest in a reasonable time, and which would not. He did not find that the boric acid had the slightest effect upon the digestibility of the food. No matter how much boric acid he took or might not take he always found that starchy food digested within four or five hours. He had found difficulty with sweetbreads, but when he peppered them with boric acid there was no difficulty whatever.

By Dr. BULSTRODE: He was not a bacteriologist, but he supposed that the boric acid had an inhibitive action upon certain putrefactive bacteria. His son had made some experiments upon the washings, but he seemed finally to come to the conclusion that there was nothing much to be learned from the bacteriological examination. The dose for boric acid in the British Pharmacopœia had been reduced from 10 to 30 grains to five to 15 grains simply because it was found by the experience of all the members of the Pharmacopœia Committee and by this personal experience of his own that five to 15 grains would do everything that 10 to 30 grains would do. In his own case he could not get any better effect from 30 to 60 grains than he got from five to 15 grains. On one occasion he took 50 grains twice in a day, but of course he did not keep it up, though he had kept up for week after week 15 grains three times a day.

By Dr. TUNNICLIFFE: His chief personal objection to sulphurous acid would be its unpleasant flavour and odour. He could not speak about its effect upon the digestive processes because he took it before he adopted the washing-tube.

Dr. TUNNICLIFFE: We have had it in evidence that it is probable that if a substance exerts an inhibitive action upon the bacteria causing decomposition it will exert the same or a very similar action upon the digestive enzymes?

Professor ATTFIELD: That seems to me to be a most reasonable inference, but it does not accord with my experience.

By the CHAIRMAN: He saw no objection to the principle of having the presence of these preservatives declared to the purchaser, though there might be difficulty in putting it into practice.

By Dr. BULSTRODE: If it were the case that infants might take in the milk upon which they live a larger dose of boric acid than that prescribed in the British Pharmacopœia, then his common-sense would tell him that he must hesitate before approving such a state of things, but, of course, he should want some evidence on the point. He certainly had an objection to the indiscriminate use of formalin, which was an active hardening agent, but again he should want to hear some evidence. The inference he drew from his experience was that a minute quantity of preservative would preserve the food outside the

body, and that when it passed into the body it ceased to have any preserving influence.

By the CHAIRMAN: Salicylic acid might be taken in quantities of from five to 15 grains without retarding the digestive processes. He had not come across any harmful agents used for colouring food.

Mr. RADCLIFFE COOKE, M.P. for Hereford, gave evidence as to the cider trade. He condemned the use of chemical preservatives as a premium upon carelessness and want of cleanliness in manufacture, and because, in his opinion, they stopped fermentation and thus prevented the cider maturing.

The Committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALDOUS, G. F., F.R.C.S. Edin., L.R.C.P., M.R.C.S., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital.

ANDREW, HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Public Vaccinator for Exeter.

AUNGIER, MARK, M.B., Ch.B. Vict., has been appointed Senior House Surgeon to the Bootle Hospital, Liverpool.

AWDRY, WALTER ROBERT, M.B. Durh., M.R.C.S., has been re-appointed Honorary Medical Officer to the Berkeley Hospital.

BATTEN, RAYNER WINTERBOTHAM, M.D., F.R.C.P. Lond., M.R.C.S., J.P., has been re-appointed Consulting Physician to the Berkeley Hospital.

BAYLISS, RICHARD ARTHUR, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Eastern Dispensary, Bath, vice J. M. Harper, resigned.

BENNETT, PATRICK, M.B., Ch.B. Irel., has been re-appointed Surgeon to the Attercliffe Division of the Sheffield Police.

BERRY, H. POOL, M.B. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Grantham Urban Sanitary District.

BRITTAN, G. R., L.D.S. Edin., has been appointed Surgeon Dentist to the South Devon and East Cornwall Hospital.

BUSHNELL, F., M.D., B.S. Lond., L.R.C.P., D.P.H., M.R.C.S., has been appointed Pathologist to the South Devon and East Cornwall Hospital.

BYERS, PROFESSOR JOHN W., M.A., M.D., M.A.O. (*honoris causâ*) has been re-appointed Examiner in Midwifery, Gynæcology, and Diseases of Children in the Royal University of Ireland.

CHATELIER, EUGENE J. A., M.B., C.M. Edin., has been appointed Medical Superintendent to the City Hospital, Birmingham, vice C. K. Millard, resigned.

CLAY, R. H., M.D., M.R.C.P., L.R.C.S. Edin., has been appointed Physician to the South Devon and East Cornwall Hospital.

CURRIE, JOHN RONALD, M.A. Edin., B.A. Oxon., M.B., Ch.B. Glasg., has been appointed In-door Resident House Surgeon to the Glasgow Maternity Hospital.

ERSKINE, A. M., M.B., B.Ch., D.P.H., has been appointed Surgeon to the Goole Cottage Hospital, vice R. C. Bruce, resigned.

FOX, E. L., M.A., M.D., B.Ch. Cantab., M.R.C.P. Lond., M.R.C.S., has been appointed Physician to the South Devon and East Cornwall Hospital.

HALLAM, ARTHUR, M.R.C.S., has been re-appointed Surgeon to the Sheffield Central Police Division.

HALLAM, WALTER, M.R.C.S., has been appointed Surgeon to the Brightside Division of the Sheffield Police.

HARRIS, S. C., L.F.P.S Glasg., has been appointed Medical Officer of Health for the Ely Urban Sanitary District of the Ely Union.

HUTCHINSON, GEORGE ARNOLD, M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer to the Glamorganshire County Asylum, Bridgend.

JAMES, ALFRED HUGH, M.B., C.M. Edin., has been appointed House Surgeon at the Aberystwyth Infirmary.

JAMES, W. D., M.R.C.S., has been appointed Surgeon to the Ecclesall Division of the Sheffield Police.

JOHNSON, R. G., L.R.C.P., M.R.C.S., has been appointed Assistant Medical Officer to the North London Hospital for Consumption, Hampstead.

LINDSAY, PROFESSOR J. A., M.A., M.D., M.R.C.P. Lond., has been appointed Examiner in Medicine in the Royal University of Ireland.

LUCY, R. H., F.R.C.S. Eng., M.B., C.M. Edin., has been appointed Surgeon to the South Devon and East Cornwall Hospital.

MCWEENEY, E. J., M.D. Irel., L.R.C.P., D.P.H. Irel., has been appointed Bacteriologist to the Irish Local Government Board.

MORTIMER, J. D., M.B., F.R.C.S., has been appointed, *pro tem.*, Registrar and Anæsthetist at the Netley Hospital.

MURISON, PATRICK, M.B., C.M. Edin., L.R.C.P. Lond., has been appointed Medical Officer for Sutherlandshire.

PASTEUR, W., M.D., F.R.C.P., M.R.C.S., has been appointed a Lecturer on Medicine in the Middlesex Hospital Medical School.

PAYNE, A. A., L.R.C.P. Edin., M.R.C.S., has been re-appointed Surgeon to the Walkley Division of the Sheffield Police.

PEARSON, JOSEPH, M.B., C.M. Aberd., has been appointed Surgeon to the Broomhill Division of the Sheffield Police.

PENDLEBURY, H. S., F.R.C.S., has been appointed Assistant Surgeon, *pro tem.*, in charge of the Yeomanry Hospital.

POWER, W. H., M.R.C.S., has been appointed a Member of the Royal Commission on Sewage Disposal, vice Sir R. T. Thorne, deceased.

RENDLE, C. E. RUSSELL, B.A. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital.

RIDDELL, ROBT., M.B., C.M. Edin., has been appointed Medical Officer for Sandbach Sanitary District and also Medical Officer for the Workhouse of the Congleton Union, vice C. Latham, resigned.

SILLS, C. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Wye Sanitary District of the Ashford Union.

SKINNER, STEPHEN, M.B., C.M. Aberdeen, M.R.C.S., has been re-appointed Medical Officer of Health for Clevedon, Somerset.

SMITH, JAS. LORRAIN, M.A., M.D., has been re-appointed Examiner in Pathology in the Royal University of Ireland.

STAUNTON-CAHILL, CHARLES J., L.R.C.P., L.R.C.S. Irel., has been appointed Junior House Surgeon to the Bootle Hospital, Liverpool.

STEWARD, FRANCIS J., M.S. M.B. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to Guy's Hospital and also Assistant Surgeon to the Hospital for Sick Children, Great Ormond-street, London.

SYMINGTON, PROFESSOR JOHNSON, M.D., F.R.C.S. Edin., has been appointed a Medical Fellow (in Anatomy) in the Royal University of Ireland.

THE CHIEF INSPECTOR OF FACTORIES announces the appointments of Certifying Surgeons under the Factory Acts of F. V. H. Mossman, L.S.A., for the Urban District of Biddulph; R. S. Ferguson, M.B., C.M. Edin., for the works in the occupation of the Calne Gas Company, Calne, Wilts; and Francis Darby Boyd, M.D. Edin., for the Edinburgh District.

THOMPSON, PROFESSOR W. H., M.D., F.R.C.S. Eng., has been appointed an Examiner in Physiology in the Royal University of Ireland.

WEBBER, H. W., M.S., M.D., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital.

WEBBER, W. W., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Crewkerne District Council.

WHIPPLE, CONNELL, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the South Devon and East Cornwall Hospital.

WHITEFORD, C. H., L.R.C.P. Lond., M.R.C.S., has been appointed Anæsthetist to the South Devon and East Cornwall Hospital.

WHITLA, PROFESSOR W., M.A. (*honoris causâ*), M.D., has been re-appointed Examiner in Materia Medica in the Royal University of Ireland.

WOOLLCOMBE, W. L., F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to the South Devon and East Cornwall Hospital.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BATH GENERAL OR ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board and apartments in the Hospital.

BIRMINGHAM AND MIDLAND SKIN AND URINARY HOSPITAL.—Clinical Assistant.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £150 for the first year and £170 for the second year, with furnished rooms in the Infirmary, and coals and gas free.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried, for 12 months. Salary £100 per annum, with furnished apartments, board, attendance, fire, gas, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary £50 per annum, with board and residence in the hospital.

CITY ASYLUM, Nottingham.—Second Assistant Medical Officer, unmarried. Salary £150, with board, apartments, and washing.

COUNTY BOROUGH OF STOCKPORT.—Medical Officer of Health for five years. Salary £400 per annum, increasing annually by £25 to £500. Apply to the Town Clerk, Town Clerk's Office, Stockport.

DUNDEE ROYAL INFIRMARY.—Fourth Resident Medical Assistant for six months. Salary at the rate of £40 per annum, with board and washing.

DURHAM COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £140, rising by yearly increments to £160, with board, lodging, washing, and attendance. Apply to Medical Superintendent, Winterton, Ferryhill.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £100 per annum, with apartments and attendance.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, London.—Resident Medical Officer. Must speak French. Salary £80 per annum, with full board.

GENERAL HOSPITAL, Nottingham.—Assistant House Physician for twelve months. Salary £50, with board, lodging, and washing in the hospital.

GLASGOW LUNACY DISTRICT BOARD.—Medical Officer (Assistant) for Woodilee Asylum, to act as Pathologist. Salary £100 per annum, with board, apartments, &c.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—Assistant Anæsthetist for six months. Honorarium at the rate of 10 guineas per annum.

HASTINGS, ST. LEONARD'S, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £75 per annum, with residence, board, and washing. Also Ophthalmic Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London.—Two House Surgeons to Out-patients, for six months. Salary 25 guineas each.

HOSPITAL FOR WOMEN, Soho-square (THE LONDON SCHOOL OF GYNÆCOLOGY).—Clinical Assistantships.

HULME DISPENSARY, Dale-street, Stretford-road, Manchester.—House Surgeon. Salary £130 per annum, with apartments, attendance, coal, and gas.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Assistant House Surgeon, unmarried. Salary £50 a year, with board and lodging.

KENT COUNTY OPHTHALMIC HOSPITAL, Maidstone.—House Surgeon. Salary £100 per annum, with board and lodging in the Hospital.

KING'S COLLEGE, London.—Senior Medical Registrar and Tutor and Senior Surgical Registrar and Tutor.

PRINT IN BINDING

LINCOLN COUNTY HOSPITAL.—Assistant House Surgeon for six months. Honorarium £10, with board, residence, and washing.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Medical Woman for Demonstrator of Anatomy.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Apply to the Secretary, Dispensary, Gartside-street, Manchester.

MERCER'S HOSPITAL, Dublin.—Vacancy on the Surgical Staff.

MIDDLESEX HOSPITAL, W.—Assistant Physician.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road.—Junior Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board, attendance, and washing.

NORTH LONDON HOSPITAL FOR CONSUMPTION, 41, Fitzroy-square, W.—Clinical Assistant in the Central Out-patients' Department for six months. Honorarium £17 10s.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board, unmarried.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SEAMEN'S HOSPITAL SOCIETY (*Dreadnought*), Greenwich.—Senior House Surgeon. Salary £75 per annum, with board and residence, and an additional £25 per annum conditionally. Also House Surgeon. Salary £50 per annum, with board and residence. These vacancies are for Officers at the Branch Hospital in the Royal Victoria and Albert Docks.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £2 per mensem, with residence, board, and washing.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

THE CHIEF INSPECTOR OF FACTORIES has given notice of the following vacancies as Certifying Surgeons under the Factory Acts—namely, at Llandovery in the county of Carmarthen; at East Leeds in the county of York; and at Friockheim in the county of Forfar.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Demonstrator and Assistant Lecturer in Anatomy. Salary £120.

VENTNOR ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence. Apply to Dr. Parry, R.M.O.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon.—Salary £50 per annum, with board, &c.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—House Surgeon, unmarried. Salary £75 per annum, with board and residence, and 10s. a month for washing.

WESTERN OPHTHALMIC HOSPITAL, 153, Marylebone-road, London.—Assistant Surgeon.

WINDSOR ROYAL INFIRMARY.—House Surgeon, unmarried. Salary commencing at £100 per annum, with board and attendance.

WORKSOP DISPENSARY HOSPITAL.—Resident Surgeon, unmarried. Salary £120 per annum, paid monthly, with increase when hospital is opened. Rooms, coal, gas, furniture, and housekeeper provided. Apply to Mr. Charles A. Whall, Worksop.

Births, Marriages, and Deaths.

BIRTHS.

FULLER.—On Feb. 9th, at Tollington-park, N., the wife of John Reginald Fuller, M.B., B.S., of a daughter.

GLADSTONE.—On Feb. 7th, at Penryn, Cornwall, the wife of Arthur Edward Gladstone, B.A. Cantab., M.R.C.S., L.R.C.P. Lond., of a daughter.

KEOGH.—On Feb. 7th, at Oxford-gardens, North Kensington, the wife of Frederick E. Keogh, of a daughter.

PARKER.—On Feb. 6th, at Westwood-street, Manchester, the wife of G. D. Parker, M.B., of a son.

PEDLEY.—On Feb. 7th, at Tonbridge, Kent, the wife of George Aston Pedley, L.R.C.P., L.S.A. Lond., M.R.C.S., L.D.S. Eng., of a son.

PORTER.—On Feb. 7th, at Edith-road, West Kensington, the wife of Robert Ibbetson Porter, M.A. Oxon., M.R.C.S., L.R.C.P., of a son.

POTTS.—On Feb. 6th, at Hagley-road, Edgbaston, Birmingham, the wife of W. A. Potts, M.D., of a son.

MARRIAGE.

GABE—ISON.—On Feb. 1st, at St. Helen's Church, Ashby-de-la-Zouch, by the Rev. Canon Denton, M.A., vicar and rural dean, John Rees Gabe, M.D., M.R.C.S. Eng., of 16, Mecklenburgh-square, London, to Grace Winifred, the second surviving daughter of Edward Ison, Esq., of Westwood, Ashby-de-la-Zouch, Leicestershire.

DEATHS.

CUNDELL.—On Feb. 11th, at his residence, Brunswick House, Kew, George R. Cundell, M.D., J.P.

GILL.—On Feb. 6th, at Chester-place, Regent's-park, Walter Battershell Gill, M.D. Lond., F.R.C.S., aged 77 years.

HYDE.—On Feb. 8th, Samuel Hyde, M.D., of Lismore House, Buxton, Derbyshire, aged 50 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE CLERGYMAN AND THE MEDICAL MAN."

To the Editors of THE LANCET.

SIRS,—You made some very severe complaints in your issue of Jan. 13th because I advocated Calvert's No. 1 Medical Phenol for influenza. You will see by the enclosed that the remedy is not the fancy of clergymen, but one tried with success by a physician. An epidemic seizes two parishes. The doctor is overwhelmed with work—150 patients—and because I recommend what I have tried with success for three years past am I to be blamed? Many letters arrive thanking me for recommending the medicine which is surely satisfactory. When I was chaplain in India (Nellore) there was a terrible outbreak of cholera of which 100 prisoners out of 400 in the gaol died. Was I to be blamed when I treated my native servants with a remedy recommended by the American missionary? A dose of whisky or gin, castor oil, and a carminative patent medicine cured all my patients. "Experientia docet"; and when influenza patients are told by doctors that they do not know of any real remedy, but they are ill for a fortnight and the "phenol" patients are, as a rule, well in two or three days I feel that I am only acting as good George Herbert would have done who advised the clergy to keep certain herbs in his garden for the benefit of the "poore."

I am, Sirs, yours faithfully,

SPENCER J. COMPTON.

South Creake Vicarage, Fakenham, Norfolk, Feb. 9th, 1900.

*** Mr. Compton encloses the following circular, but he crosses out the words "sure and certain" from the title and replaces them with a query.—ED. L.

From the Rev. J. E. Woodrow, The Vicarage, Ormskirk.

A SURE AND CERTAIN

CURE FOR INFLUENZA.

PURE PHENOL, Calvert's No. 1,

(Prepared for INTERNAL use.)

24 Drops in an 8 oz. Bottle of Water, well mixed.

DOSE.—Two Tablespoonfuls three times in 24 hours. Children half the Dose. One Dose will be enough to Prevent; three doses will be enough to Cure.

☞ *The Dose to Prevent should not be taken till the symptoms of Influenza (cold, chill, pains, &c.) show themselves; then One Dose will stop it in less than half an hour.*

PRICE OF MEDICINE.—3d. or 6d., according to the profits of the Chemist. The medicine taken as above is perfectly harmless, and may be taken by anyone at any time.

This Recipe was given me by a Physician in the West Indies, as a sure remedy in Malarial and other Fevers. I came to the conclusion that Influenza was a kind of low Fever, and tried the remedy with success. I have now used it in scores of cases without a single failure.—J. E. W.

"SAVE US FROM OUR FRIENDS."

To the Editors of THE LANCET.

SIRS,—I enclose a "cutting" which was published in the last issue of the Leicester *Mercury* under a series of letters which are appearing in that paper with reference to club doctors, in which my partner's name and my own are mentioned. I have no doubt our patient wrote from the fulness of his heart and felt that the accusation contained in "Wonderer's" letter was unjust to the profession generally; but in case it should be thought we were parties to its publication I beg to state that it was written without the sanction or knowledge of either Dr. Payne or myself. I wish also to add that we have taken every step possible to suppress further reference to us in any future correspondence which may appear.

I am, Sirs, yours faithfully,

London-road, Leicester, Feb. 12th, 1900. R. R. YOUNG, M.D. Glasg.

[ENCLOSURE.]

Sir,—In your last issue a "Wonderer" asks "whether a club patient has the same attention from a doctor as a private patient." My answer must be yes. I am a club patient, and have been one for 25 years, and I can honestly say that I have always been treated well by the club doctor. I am just now recovering from a long and severe illness, and if I had paid a guinea a visit could not have had more attention paid me than has been shown by my club doctor, Dr. Young, and his partner, Dr. Payne.

Yours truly.

129, Berners-street. CHARLES HARRIS.

OXYGEN IN THE TREATMENT OF TINNITUS AND POST-INFLUENZAL DEAFNESS.

To the Editors of THE LANCET.

SIRS,—Of the various sequelæ which so commonly follow an attack of *la grippe* none are more distressing and intractable than the very common deafness apparently dependent as much on a catarrhal condition of the mucosa of the Eustachian tube and middle ear as on a lowered vitality of the neural nervous mechanism. The gratifying results which I have obtained by the exhibition of oxygen under pressure to the Eustachian tube and middle ear lead me to bring the technique of this treatment to the notice of the professor. A cylinder of compressed oxygen is connected by means of six feet of rubber tubing to a nozzle which accurately fits into the larger end of a Eustachian catheter. The tube, at the middle of its length, is interrupted by a rubber bladder of eight or 10 inches in diameter when expanded. The bladder is provided with a stopcock on the distal side of the cylinder. The catheter having been introduced into the Eustachian tube the nozzle is fitted into it and the oxygen turned on. By the admission of more or less gas into the bladder the pressure in the Eustachian tube and middle ear is increased or diminished at the will of the operator and the middle ear can be douched with oxygen under varying degrees of pressure. By gradually increasing at each sitting the duration of the douche and the pressure at which the gas is applied I have obtained excellent results in many cases which had previously resisted all the ordinary methods of treatment.—I am, Sirs, yours faithfully,

PERCY H. V. HAMMERSLEY, L.R.C.P. Lond., &c.

Hanley, Feb. 14th, 1900.

THE UNITED PRACTITIONERS LIMITED.

WE have received a copy of a proposed Bill containing 67 clauses and 22 schedules of which the short title is, "The United Practitioners Act, 1899." It has been sent to us by Mr. C. S. Leadbetter, R.D.S.E., and he informs us that it is sent to "accord with an adjourned meeting of registered dentists held last year in the Young Men's Christian Association, Peter-street, Manchester." He also tells us that "each member of the Government has a similar copy of the Bill as the one I have sent you." So far as we can understand, Mr. Leadbetter proposes that the medical and "allied" professions shall be turned into a limited company and that no one shall practise unless he or she have a certificate from the Imperial Treasury. Practitioners shall include "medical men, medical women, physicians and surgeons, dentists, professed anæsthetists, vivisectors, veterinary surgeons, midwives and surgeon accoucheurs, herbalists, bone-setters, chemists and druggists, vendors of proprietary medicines and the like callings, and their pupils and assistants." We are irresistibly reminded of Juvenal's lines:—

> "Grammaticus, rhetor, geometres, pictor, aliptes,
> Augur, schœnobates, medicus, magus; omnia novit."

The "practitioner" will, indeed, be a man of many parts. Meantime, the General Medical Council will be pleased to hear that "nothing in this shall be construed or recited to mean the abolition or dissolving of the Medical Council." There is a mysterious appendix to the Bill from which we extract the following:—

> The demands of the military operations in South Africa, as awakened in the Home, Colonial, and dependencies of the British Empire in and out of the several service circles, the organised condition of the land and water armed services of the British Crown available for the said operations and the like, if they should unhappily arise within any other part of the British possessions, apart from complications arising from Continental and other treaty obligations, the following in brief were provisions compiled in the latter half year of 1876 and were passed through the offices of the President of the Board of Trade for consideration in other government departments of state, founded upon statistics then known to be in existence available for this object.

What all this has to do with Mr. Leadbetter's desire for the improvement of the medical profession we fail to see. It is as incomprehensible as Topsell's well-known instructions for catching mice, and the second paragraph commences as follows:—"The basis of the details are founded upon a revival of the Militia Ballot Acts"; however, grammar was made for slaves.

A QUESTION OF LIABILITY FOR PAYMENT OF MEDICAL FEES.

A CASE of some interest to the medical profession came before Judge Stonor, on Tuesday, at Marylebone County Court. The plaintiff was Mr. S. Quartley, of Stanhope-terrace, Gloucester Gate, and he claimed £19 5s. 6d. from Mr. E. Smith, proprietor of the "Queen's Arms" Hotel, St. John's-wood, the claim being for professional attendance on the defendant's wife and other persons. The main question before the court was whether the defendant should be held liable except in the case of attendance on his wife. Mr. Quartley stated that he was called to attend the defendant's wife, and his fees in respect to this case amounted to £14. In reply to the judge, the plaintiff said that his usual fee for a visit with medicine was 5s. Continuing, plaintiff explained that the remaining £5 5s. 6d. was for attendance upon the defendant's manager at Mr. Smith's own request, also upon the defendant's sister-in-law, his mother-in-law, and this lady's sister. All these persons were staying in defendant's house except the sister-in-law, who resided close by. The Judge: You did not inquire at the time, I presume, as to whom you should look to for your fees?—The Plaintiff: No, nothing was said about the fees.—In cross-examination the plaintiff denied having delivered the accounts to the persons separately. When he was called to attend a person in any house he took it for granted that the gentleman of the house would be responsible for the fees.—The Judge: Was the defendant aware of the fact that you were attending on the other persons?—The plaintiff: Yes. When a medical man attends a person in a house he expects the gentleman of the house to say if he is not going to be responsible for the fees. St. John's Wood is more than a mile from my residence, and I had sometimes to go to the defendant's house at night time.—The Judge: I think that the item for the manager must come out, but the defendant is evidently liable for the fees in respect to the attendance on the other persons.—The defence was that the defendant was only liable for the item relating to attendance on his wife, but it was also suggested that the fees were excessive.—The Judge found that the fees were not excessive, and that the defendant was liable for the whole of the account with the exception of the item relating to the manager. Judgment for the plaintiff for £17 with costs.

"QUACKS AND ABORTION."

WE have received a very satisfactory letter from Messrs. T. Harrison Roberts, Limited, the publishers of *Illustrated Bits*. We called attention in our issue of Feb. 3rd, to the insertion in this paper of an advertisement of Ottey's Strong Pills. We now learn that the advertisement has been discontinued and that Mr. Ottey's money has been returned to him. This is as it should be.

"A DISCREDITABLE CIRCULAR."

To the Editors of THE LANCET.

SIRS,—In your issue of this week a reference is made to our client, Mr. J. C. McWalter, L.R.C.S.I., &c., under the heading of "A Discreditable Circular." Reference in such a connexion is calculated to do him serious professional injury and he is not aware that he has ever issued a circular to which the term could be applied. As the subject matter of the correspondence referred to by you will be submitted to a court of law for adjudication we will ask you meantime to give this repudiation the same publicity as the unwarranted reference complained of. Yours faithfully,

CROWLEY AND BOLGER.

50, Lower Sackville-street, Dublin, Feb. 14th, 1900.

LAY PATHOLOGY.

WE extract with great pleasure the following favourable notice of the progress towards health of a deservedly popular public man. The notice appears in the *Daily Chronicle* of Feb. 14th:—

> Mr. Gerald Balfour passed a good night and yesterday he was so much better that he was able to enjoy a good meal. He is, however, not able to move from a recumbent position for fear of another rush of blood to the heart and his progress to complete recovery must be slow.

We should much like to know what it is that generally rushes to Mr. Balfour's heart or to that of the medical expert on the *Daily Chronicle*, if it is not blood.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 15th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb. 9	29·99	N.E.	...	56	37	25	Fzn.	28	Foggy
,, 10	29·77	S.	...	42	37	27	Fzn.	30	Fine
,, 11	29·19	W.	0·46	63	38	30	35	36	Cloudy
,, 12	29·40	S.E.	...	49	40	28	Fzn.	30	Foggy
,, 13	29·68	S.E.	...	45	39	30	Fzn.	32	Foggy
,, 14	29·53	N.E.	0·59	63	41	32	35	36	Snowing
,, 15	29·91	S.W.	0·12	38	37	34	37	38	Raining

During the week marked copies of the following newspapers have been received: *West Morning News, Manchester Guardian, Sheffield Daily Telegraph, Cornish Post, New York Sun, Nottingham Daily Guardian, Dundee Advertiser, Daily Mail (London), Sussex Daily News, Weekly News (Oldbury), Blackburn Weekly Standard, Birmingham News, Newcastle Daily Chronicle, Times of India, Pioneer Mail, Citizen, Builder, Scotsman, Architect, Liverpool Daily Post, Brighton Gazette, Bristol Mercury, Yorkshire Post, Darlington Echo, Leeds Mercury, Cork Daily Herald, Sydney Daily Telegraph, Nottingham Daily Express, City Press, Hertfordshire Mercury, Mining Journal, Reading Mercury, Sanitary Record, Local Government Chronicle, Insurance Chronicle, Science Siftings, Harrogate*

Advertiser, Weston-super-Mare Gazette, Scottish Analyst, Buchan Observer, Local Government Journal, Express and Star, Weekly Free Press and Aberdeen Herald, North Wales Chronicle, Midland Evening News, South Africa, Bradford Observer Budget, Worcester Journal, Tunbridge Wells Advertiser, Eastern Province Herald (Cape of Good Hope), The Times, Dundee Courier, Glossop Times, Morning Leader, &c., &c.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (24th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (20th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Discussion on the Forms and Significance of the Proteids found in the Urine (opened by Prof. Halliburton). Dr. Bradshaw (Liverpool), Dr. Hopkins (Cambridge), and Dr. Hutchison will read papers on the subject. Dr. Pavy, Dr. V. Harley, Dr. Acland, Dr. L. Dickinson, Dr. A. Luff, Dr. P. Weber, and others are expected to take part in the debate.

CHELSEA CLINICAL SOCIETY (Holy Trinity Parish Hall, Pavilion-road, Sloane-square, S.W.).—8.30 P.M. Cases will be shown by Dr. W. Ewart. Paper:—Dr. V. Dickinson: Gynæcological Therapeutics.

WEDNESDAY (21st).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. J. W. Measures: Exhibition of Photo-Micrographic and Projection Apparatus (with lantern illustrations).

FRIDAY (23rd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. The following cases will be shown:—Dr. StClair Thomson: Primary Tuberculosis of the Nasal Septum (shown at the Society in October, 1897).—Mr. J. Clarke: A Case of Lateral Curvature of the Spine in an Infant.—Mr. Battle: Patient after Removal of a Portion of Skull for Malignant Disease.—Mr. Battle: Patient after Open Section of Knee-joint for Irreducible Traumatic Dislocation.—Mr. Kellock: A Case of Achondroplasia.—Dr. C. W. Chapman: Two Cases (father and son) of Congenital Deformity of the Hands, with Absence of Radius in the Child. Other cases will be shown. Patients will be in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (19th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. B. G. A. Moynihan: The Anatomy and Pathology of some rarer forms of Hernia. (Arris and Gale Lecture.)

LONDON THROAT HOSPITAL (204, Gt. Portland-street, W.).—4.30 P.M. Mr. Waggett: Middle Ear Suppuration and its Consequences. (Post-Graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Keetley: Congenital Dislocations.

TUESDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. C. T. Williams: Consultation. (Medical.) 6 P.M. Dr. S. Taylor: Class. Applied Anatomy and Physical Diagnosis. Demonstration V.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, W.C.).—3.30 P.M. Sir W. Gowers: Clinical Lecture.

WEDNESDAY (21st).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. B. G. A. Moynihan: The Anatomy and Pathology of some rarer forms of Hernia. (Arris and Gale Lecture.)

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—4.30 P.M. Dr. M. Dockrell: Syphilides. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Dr. P. Manson: Malaria Parasites and Malarial Disease.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Kidd: Bronchiectasis.

THURSDAY (22nd).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—5 P.M. Clinical Demonstration:—Dr. F. Beach: Cases of General Paralysis of the Insane and Allied Disorders.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Kellock: Rickets in its Surgical Aspect.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Willcocks: Medical Cases. (Post-graduate Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Abraham: Treatment of some Skin Affections.

FRIDAY (23rd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Mr. B. G. A. Moynihan: The Anatomy and Pathology of some rarer forms of Hernia. (Arris and Gale Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Consultation. (Eye, Ear, Nose and Throat.)

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1899, which was completed with the issue of Dec. 30th, and the Title-page to the Volume were given in THE LANCET of Jan. 6th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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